



14540 - UVIS CTI Monitor (EPER)

Cycle: 24, Proposal Category: CAL/WFC3

(Availability Mode: RESTRICTED)

INVESTIGATORS

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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	DARK TUNGSTEN	WFC3/UVIS	1	09-Nov-2016 11:15:28.0	yes
02	DARK TUNGSTEN	WFC3/UVIS	1	09-Nov-2016 11:15:29.0	yes
03	DARK TUNGSTEN	WFC3/UVIS	1	09-Nov-2016 11:15:30.0	yes
04	DARK TUNGSTEN	WFC3/UVIS	1	09-Nov-2016 11:15:30.0	yes
05	DARK TUNGSTEN	WFC3/UVIS	1	09-Nov-2016 11:15:31.0	yes
06	DARK TUNGSTEN	WFC3/UVIS	1	09-Nov-2016 11:15:31.0	yes
07	DARK TUNGSTEN	WFC3/UVIS	1	09-Nov-2016 11:15:32.0	yes

<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>
08	DARK TUNGSTEN	WFC3/UVIS	1	09-Nov-2016 11:15:32.0	yes
09	DARK TUNGSTEN	WFC3/UVIS	1	09-Nov-2016 11:15:33.0	yes
10	DARK TUNGSTEN	WFC3/UVIS	1	09-Nov-2016 11:15:33.0	yes
11	DARK TUNGSTEN	WFC3/UVIS	1	09-Nov-2016 11:15:34.0	yes
12	DARK TUNGSTEN	WFC3/UVIS	1	09-Nov-2016 11:15:35.0	yes

12 Total Orbits Used

ABSTRACT

Using the Extended Pixel Edge Response (EPER) technique, the Charge Transfer Inefficiency (CTI) of the WFC3 instrument UVIS can be measured. The EPER technique is used to study the CTI on many other instruments, and works by examining uncharacteristically high buildups of charge in the extended pixel region. To track CTI with time, a multi-cycle CTI monitor program has been conducted, including Cycles 17, 18, 19, 20, 21, 22, and 23 (with corresponding ID#s : 11924, 12347, 12691, 13082, 12565, 14011, 14377, respectively).

OBSERVING DESCRIPTION

This 12 orbit program will take pairs of internal lamp flatfields at varying levels of illumination. Bias measurements of half second dark exposures serve to account for the Flight Software's inability to provide EPER readout format. Within the visit pairs, the first consists of the aforementioned bias dark frame as well as two F390M filtered internal tungsten flatfields; the second is another bias frame, and three more tungsten flatfields -- the first again with the F390M filter, and the latter two with the F438W filter. Over the course of a year, an observation occurs about every 8 weeks.

Analysis of this data is threefold, first visual inspection of bias darks to isolate and account for periodic noise, second finding recurring trends in CTI profiles, and third (using the method of the TIR WFC3 2012-03, Bourque & Kozhurina-Platais) characterizing the charge transfer efficiency (CTE) with time.

----- Additional Comments -----

Former EPER programs had more visit-pairs than the current proposal.

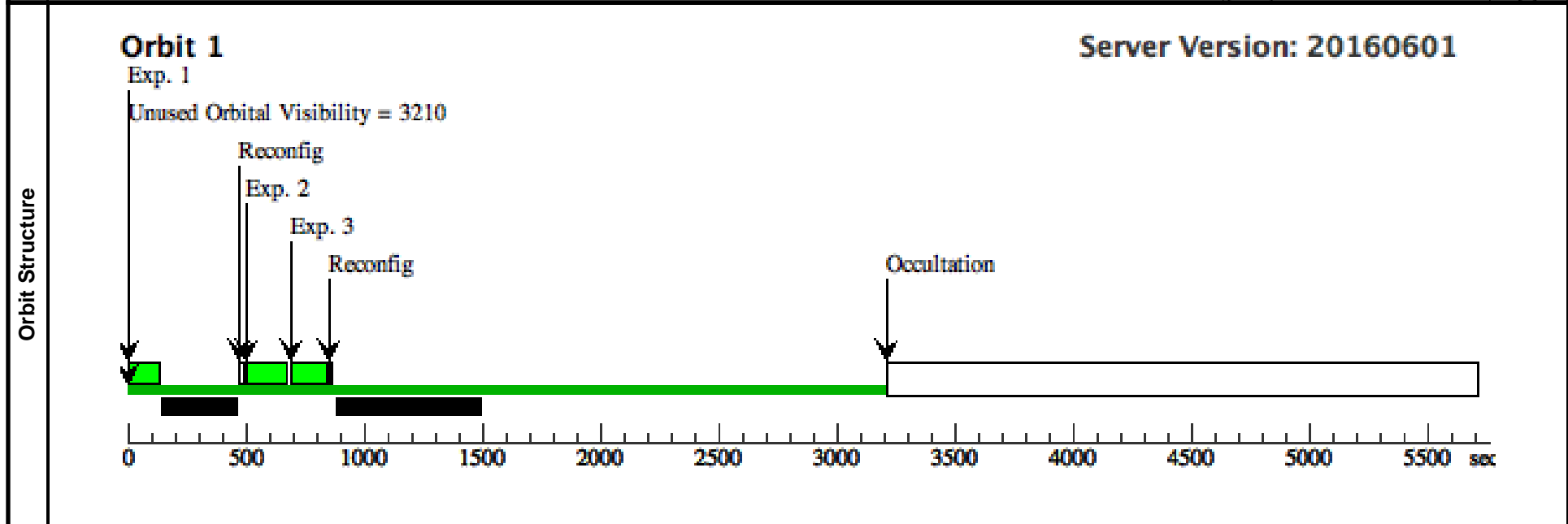
Proposal 14540 - Visit 01 - UVIS CTI Monitor (EPER)

Wed Nov 09 16:15:35 GMT 2016

Visit	Proposal 14540, Visit 01 Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 02-NOV-2016:00:00:00 AND 01-DEC-2016:00:00:00; GROUP 01,02 WITHIN 1D
	(9.2 (01.002)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (22.9 (01.003)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

Diagnosics	(9.2 (01.002)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (22.9 (01.003)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
	(9.2 (01.002)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (22.9 (01.003)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
		1	0.5	DARK	WFC3/UVIS, ACCUM, UVIS	DEF	CTE=EPER			0.5 Secs (0.5 Secs)
									[==>]	[1]
	2	9.2	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F390M	CTE=EPER			9.2 Secs (9.2 Secs)	
									[==>]	[1]
	3	22.9	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F390M	CTE=EPER			22.9 Secs (22.9 Secs)	
									[==>]	[1]



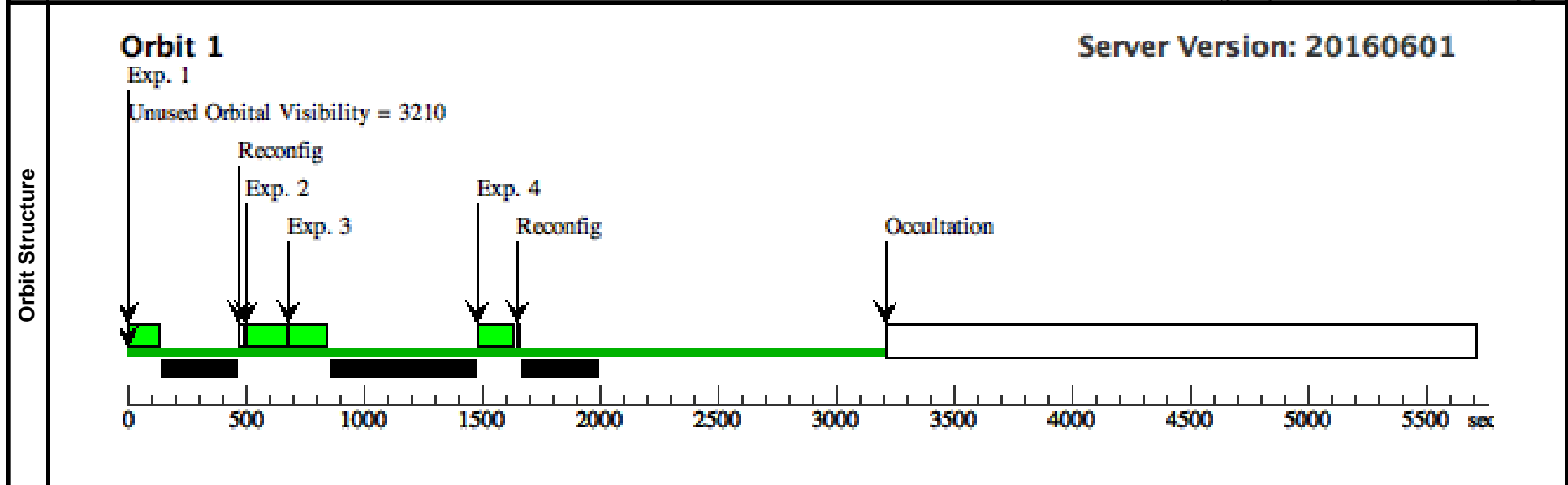
Proposal 14540 - Visit 02 - UVIS CTI Monitor (EPER)

Wed Nov 09 16:15:36 GMT 2016

Visit	Proposal 14540, Visit 02	
	Diagnostic Status: Warning	
	Scientific Instruments: WFC3/UVIS	
	Special Requirements: (none)	

Diagnostics	(Visit 02) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
	(6.4 (02.002)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser	
	(7.6 (02.003)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser	
	(22.7 (02.004)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser	

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	0.5	DARK	WFC3/UVIS, ACCUM, UVIS	DEF	CTE=EPER			0.5 Secs (0.5 Secs)	
									[==>]	[1]
	2	6.4	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F390W	CTE=EPER			6.4 Secs (6.4 Secs)	
								[==>]	[1]	
	3	7.6	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F438W	CTE=EPER			7.6 Secs (7.6 Secs)	
								[==>]	[1]	
	4	22.7	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F438W	CTE=EPER			22.7 Secs (22.7 Secs)	
								[==>]	[1]	



Proposal 14540 - Visit 03 - UVIS CTI Monitor (EPER)

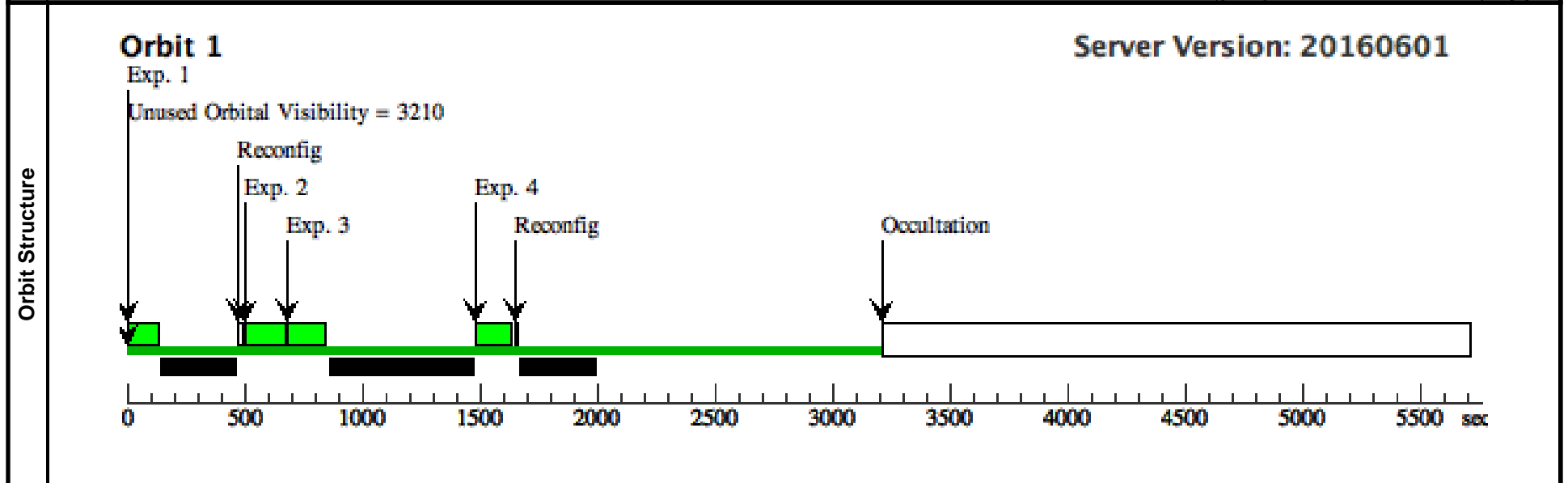
Wed Nov 09 16:15:36 GMT 2016

Visit	Proposal 14540, Visit 03 Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 01-JAN-2017:00:00:00 AND 01-FEB-2017:00:00:00: GROUP 03,04 WITHIN 1D										
	(9.2 (03.002)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (22.9 (03.003)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1	0.5	DARK	WFC3/UVIS, ACCUM, UVIS	DEF	CTE=EPER			0.5 Secs (0.5 Secs)		
									[=>]		[1]
	2	9.2	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F390M	CTE=EPER			9.2 Secs (9.2 Secs)		
								[=>]		[1]	
	3	22.9	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F390M	CTE=EPER			22.9 Secs (22.9 Secs)		
								[=>]		[1]	
Orbit Structure	<p>Orbit 1 Server Version: 20160601</p> <p>Unused Orbital Visibility = 3210</p> <p>The diagram illustrates the orbit structure for Orbit 1. The x-axis represents time in seconds, ranging from 0 to 5500. Key events are marked with arrows: Exp. 1 at ~100s, Reconfig at ~450s, Exp. 2 at ~550s, Exp. 3 at ~750s, and Reconfig at ~900s. A large occultation period is shown as a white bar from approximately 3200s to 5500s. Green bars represent exposure durations, and black bars represent reconfiguration times. The text 'Unused Orbital Visibility = 3210' is displayed at the top left.</p>										
	<p>0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 sec</p>										

Visit	Proposal 14540, Visit 04 Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: (none)
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Diagnostics	(Visit 04) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU (6.4 (04.002)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (7.6 (04.003)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (22.7 (04.004)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
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Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	0.5	DARK		WFC3/UVIS, ACCUM, UVIS	DEF	CTE=EPER			0.5 Secs (0.5 Secs) [==>]
2	6.4	TUNGSTEN		WFC3/UVIS, ACCUM, UVIS	F390W	CTE=EPER			6.4 Secs (6.4 Secs) [==>]	[1]
3	7.6	TUNGSTEN		WFC3/UVIS, ACCUM, UVIS	F438W	CTE=EPER			7.6 Secs (7.6 Secs) [==>]	[1]
4	22.7	TUNGSTEN		WFC3/UVIS, ACCUM, UVIS	F438W	CTE=EPER			22.7 Secs (22.7 Secs) [==>]	[1]



Proposal 14540 - Visit 05 - UVIS CTI Monitor (EPER)

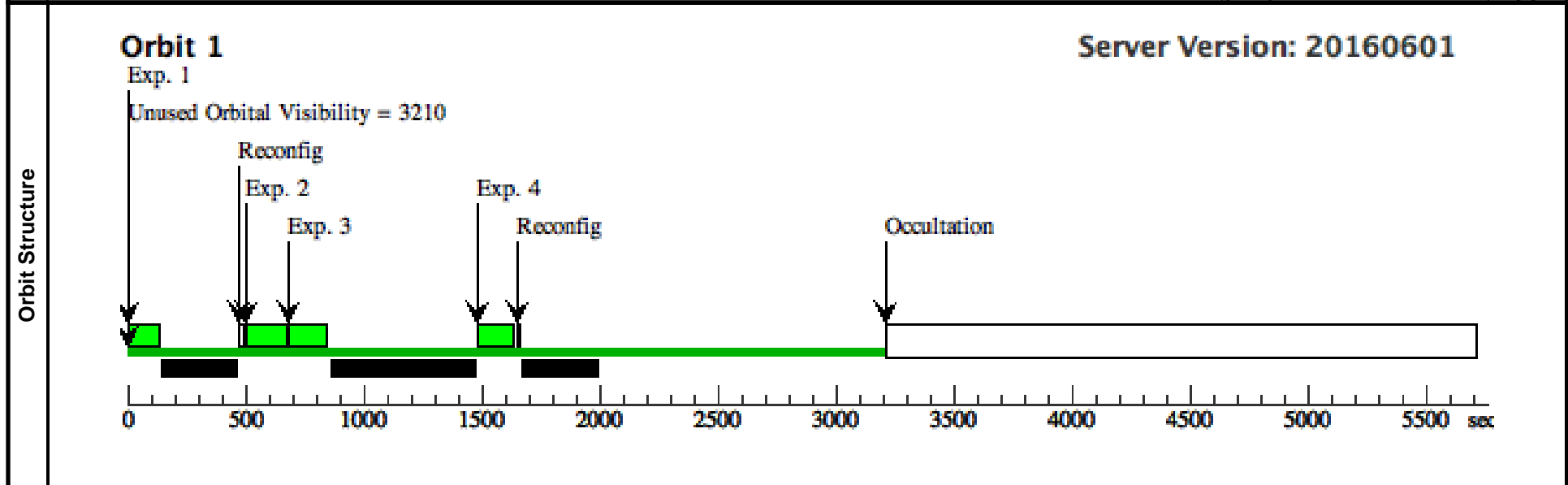
Wed Nov 09 16:15:36 GMT 2016

Visit	Proposal 14540, Visit 05 Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 01-MAR-2017:00:00:00 AND 01-APR-2017:00:00:00; GROUP 05.06 WITHIN 1D									
	(9.2 (05.002)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (22.9 (05.003)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	0.5	DARK	WFC3/UVIS, ACCUM, UVIS	DEF	CTE=EPER			0.5 Secs (0.5 Secs)	
									[=>]	[1]
	2	9.2	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F390M	CTE=EPER			9.2 Secs (9.2 Secs)	
								[=>]	[1]	
	3	22.9	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F390M	CTE=EPER			22.9 Secs (22.9 Secs)	
								[=>]	[1]	
Orbit Structure	<p>Orbit 1 Unused Orbital Visibility = 3210</p> <p style="text-align: right;">Server Version: 20160601</p>									
	<p>The diagram shows a horizontal timeline from 0 to 5500 seconds. Key events are marked with arrows: Exp. 1 at ~100s, Reconfig at ~450s, Exp. 2 at ~500s, Exp. 3 at ~750s, Reconfig at ~850s, and Occultation at ~3200s. Green bars represent exposure durations, and black bars represent reconfiguration times. A long white bar indicates the occultation period from approximately 3200s to 5500s.</p>									

Visit	Proposal 14540, Visit 06 Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: (none)
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Diagnostics	(Visit 06) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU (6.4 (06.002)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (7.6 (06.003)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (22.7 (06.004)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
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Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	0.5	DARK	WFC3/UVIS, ACCUM, UVIS	DEF	CTE=EPER				0.5 Secs (0.5 Secs)
									[==>]	[1]
2	6.4	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F390W	CTE=EPER				6.4 Secs (6.4 Secs)	
									[==>]	[1]
3	7.6	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F438W	CTE=EPER				7.6 Secs (7.6 Secs)	
									[==>]	[1]
4	22.7	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F438W	CTE=EPER				22.7 Secs (22.7 Secs)	
									[==>]	[1]



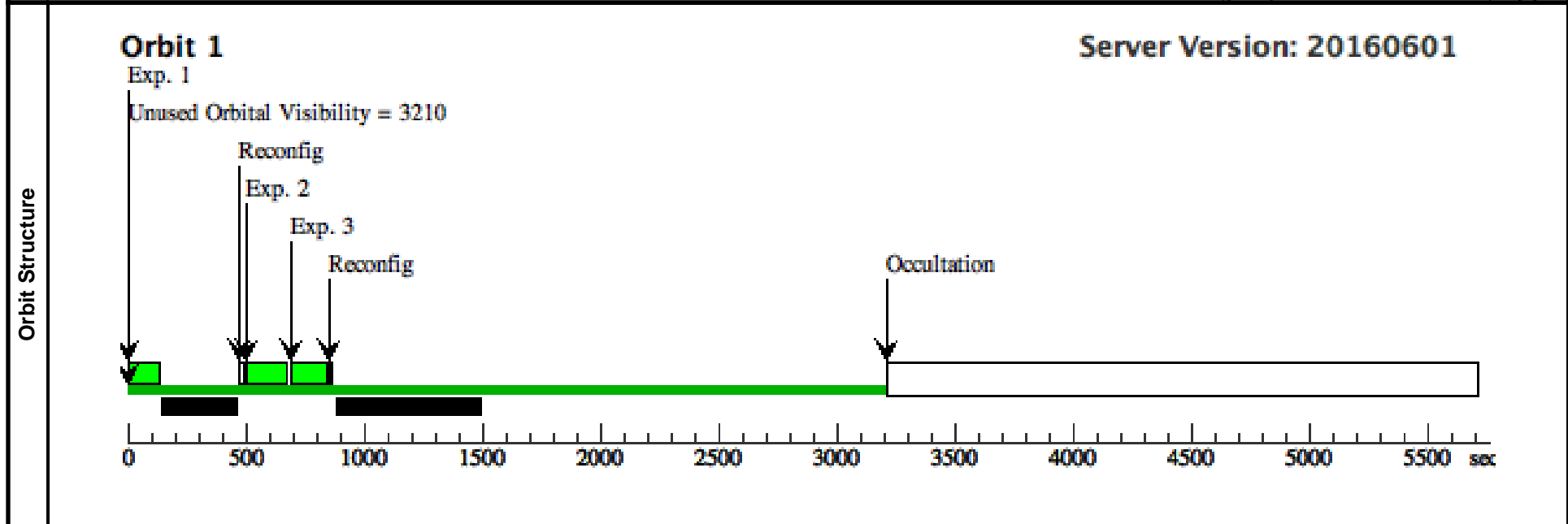
Proposal 14540 - Visit 07 - UVIS CTI Monitor (EPER)

Wed Nov 09 16:15:36 GMT 2016

Visit	Proposal 14540, Visit 07 Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 01-MAY-2017:00:00:00 AND 01-JUN-2017:00:00:00; GROUP 07.08 WITHIN 1D
	(9.2 (07.002)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (22.9 (07.003)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

Diagnosics	(9.2 (07.002)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (22.9 (07.003)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
	(9.2 (07.002)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (22.9 (07.003)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

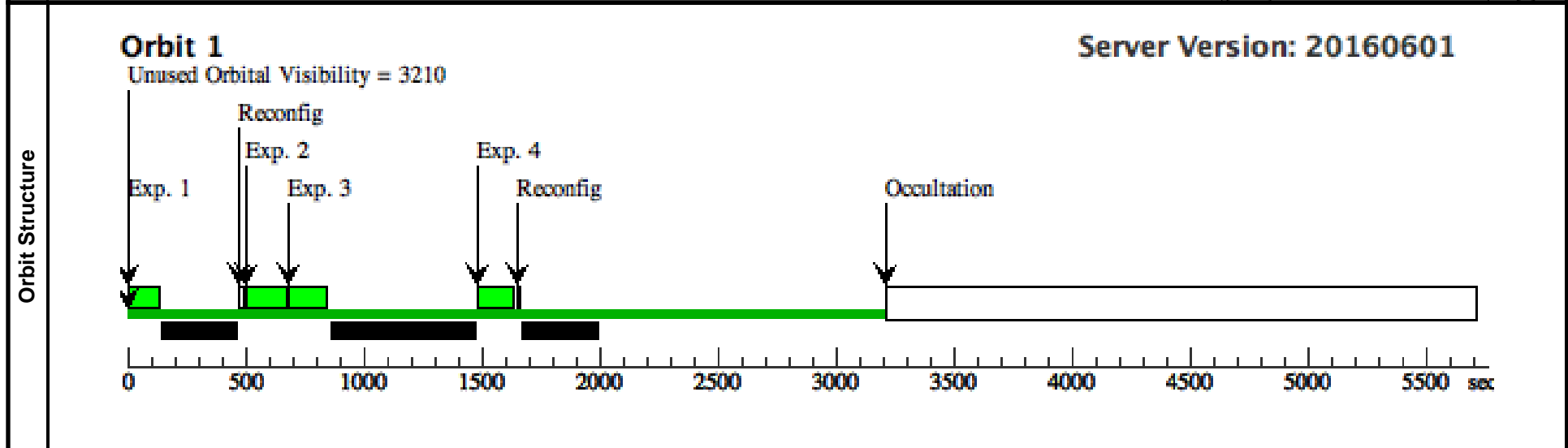
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
		1	0.5	DARK	WFC3/UVIS, ACCUM, UVIS	DEF	CTE=EPER			0.5 Secs (0.5 Secs)
									[==>]	[1]
	2	9.2	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F390M	CTE=EPER			9.2 Secs (9.2 Secs)	
									[==>]	[1]
	3	22.9	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F390M	CTE=EPER			22.9 Secs (22.9 Secs)	
									[==>]	[1]



Visit	<p>Proposal 14540, Visit 08</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: WFC3/UVIS</p> <p>Special Requirements: (none)</p>
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Diagnostics	<p>(Visit 08) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU</p> <p>(6.4 (08.002)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser</p> <p>(7.6 (08.003)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser</p> <p>(22.7 (08.004)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser</p>
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Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	0.5	DARK	WFC3/UVIS, ACCUM, UVIS	DEF	CTE=EPER				0.5 Secs (0.5 Secs)
									[==>]	[1]
2	6.4	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F390W	CTE=EPER				6.4 Secs (6.4 Secs)	
									[==>]	[1]
3	7.6	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F438W	CTE=EPER				7.6 Secs (7.6 Secs)	
									[==>]	[1]
4	22.7	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F438W	CTE=EPER				22.7 Secs (22.7 Secs)	
									[==>]	[1]



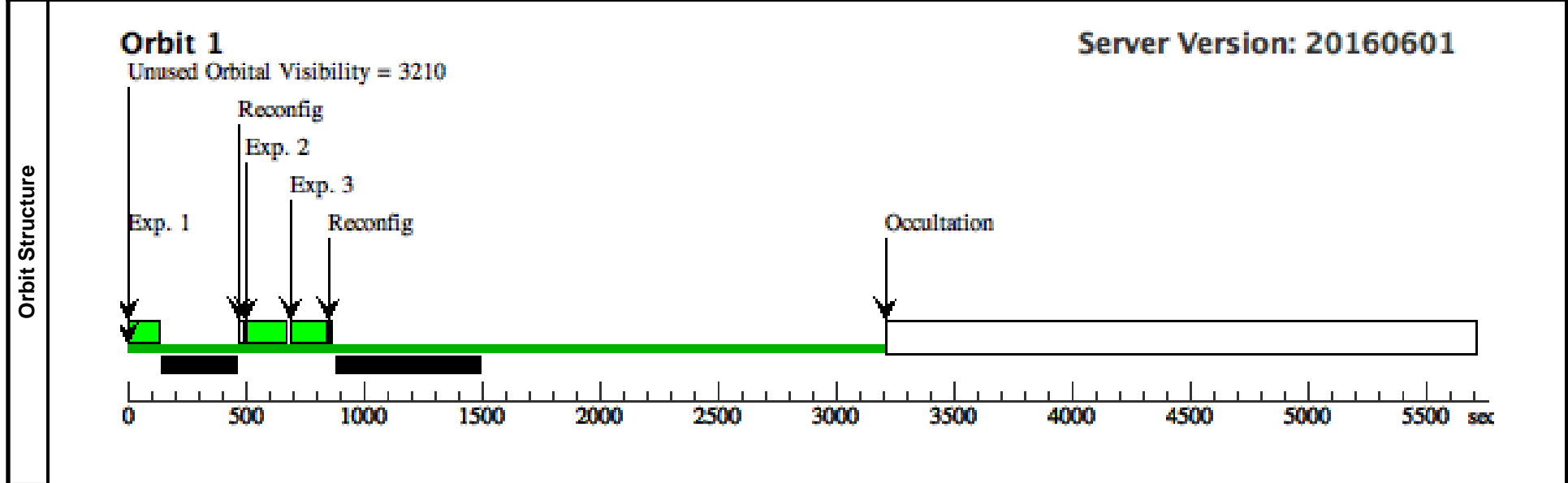
Proposal 14540 - Visit 09 - UVIS CTI Monitor (EPER)

Wed Nov 09 16:15:36 GMT 2016

Visit	Proposal 14540, Visit 09 Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 01-JUL-2017:00:00:00 AND 01-AUG-2017:00:00:00; GROUP 09.10 WITHIN 1D
	(9.2 (09.002)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (22.9 (09.003)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

Diagnosics	(9.2 (09.002)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (22.9 (09.003)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
	(9.2 (09.002)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser (22.9 (09.003)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
		1	0.5	DARK	WFC3/UVIS, ACCUM, UVIS	DEF	CTE=EPER			0.5 Secs (0.5 Secs)
									[=>]	[1]
	2	9.2	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F390M	CTE=EPER			9.2 Secs (9.2 Secs)	
									[=>]	[1]
	3	22.9	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F390M	CTE=EPER			22.9 Secs (22.9 Secs)	
									[=>]	[1]



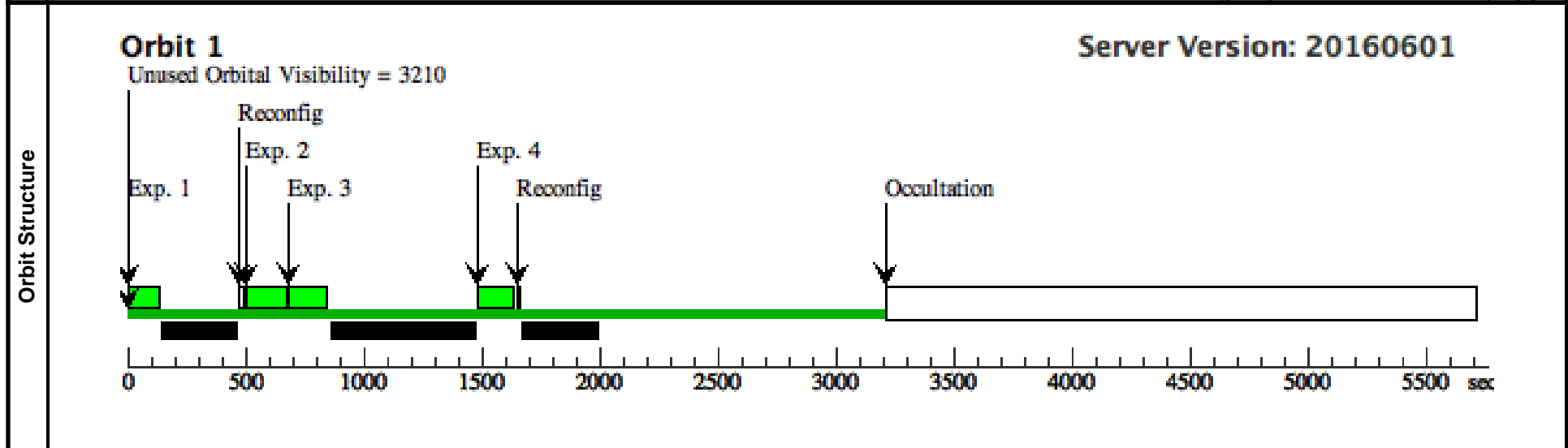
Proposal 14540 - Visit 10 - UVIS CTI Monitor (EPER)

Wed Nov 09 16:15:36 GMT 2016

Visit	Proposal 14540, Visit 10	
	Diagnostic Status: Warning	
	Scientific Instruments: WFC3/UVIS	
	Special Requirements: (none)	

Diagnostics	(Visit 10) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	
	(6.4 (10.002)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser	
	(7.6 (10.003)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser	
	(22.7 (10.004)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser	

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	0.5	DARK	WFC3/UVIS, ACCUM, UVIS	DEF	CTE=EPER			0.5 Secs (0.5 Secs)	
									[==>]	[1]
	2	6.4	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F390W	CTE=EPER			6.4 Secs (6.4 Secs)	
								[==>]	[1]	
	3	7.6	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F438W	CTE=EPER			7.6 Secs (7.6 Secs)	
								[==>]	[1]	
	4	22.7	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F438W	CTE=EPER			22.7 Secs (22.7 Secs)	
								[==>]	[1]	



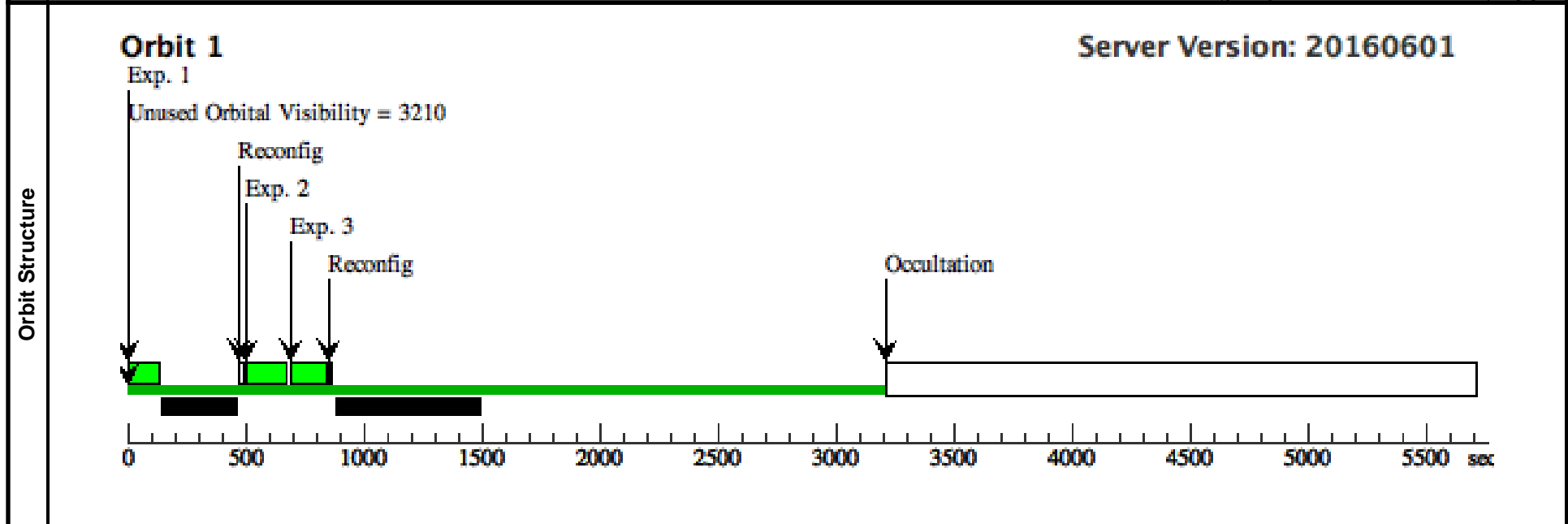
Proposal 14540 - Visit 11 - UVIS CTI Monitor (EPER)

Wed Nov 09 16:15:36 GMT 2016

Visit	<p>Proposal 14540, Visit 11</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: WFC3/UVIS</p> <p>Special Requirements: BETWEEN 01-SEP-2017:00:00:00 AND 01-OCT-2017:00:00:00: GROUP 11,12 WITHIN 1D</p>
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Diagnostics	<p>(9.2 (11.002)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser</p> <p>(22.9 (11.003)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser</p>
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#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	0.5	DARK	WFC3/UVIS, ACCUM, UVIS	DEF	CTE=EPER			0.5 Secs (0.5 Secs)	
								[==>]	[1]
2	9.2	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F390M	CTE=EPER			9.2 Secs (9.2 Secs)	
								[==>]	[1]
3	22.9	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F390M	CTE=EPER			22.9 Secs (22.9 Secs)	
								[==>]	[1]



Proposal 14540 - Visit 12 - UVIS CTI Monitor (EPER)

Wed Nov 09 16:15:36 GMT 2016

Visit	Proposal 14540, Visit 12	
	Diagnostic Status: Warning	
	Scientific Instruments: WFC3/UVIS	
	Special Requirements: (none)	

Diagnosics
 (Visit 12) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU
 (6.4 (12.002)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
 (7.6 (12.003)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
 (22.7 (12.004)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
		1	0.5	DARK	WFC3/UVIS, ACCUM, UVIS	DEF	CTE=EPER			0.5 Secs (0.5 Secs)
									[==>]	[1]
	2	6.4	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F390W	CTE=EPER			6.4 Secs (6.4 Secs)	
									[==>]	[1]
	3	7.6	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F438W	CTE=EPER			7.6 Secs (7.6 Secs)	
									[==>]	[1]
	4	22.7	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F438W	CTE=EPER			22.7 Secs (22.7 Secs)	
									[==>]	[1]

