



17952 - WFC3 UVIS CTI Monitor (EPER)

Cycle: 33, Proposal Category: CAL/WFC3

(Availability Mode: RESTRICTED)

INVESTIGATORS

<i>Name</i>	<i>Institution</i>
Anne O'Connor (PI) (Contact)	Space Telescope Science Institute
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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	24-Jul-2025 16:00:14.0	yes
02	DARK TUNGSTEN	WFC3/UVIS	1	24-Jul-2025 16:00:15.0	yes
03	DARK TUNGSTEN	WFC3/UVIS	1	24-Jul-2025 16:00:15.0	yes
04	DARK TUNGSTEN	WFC3/UVIS	1	24-Jul-2025 16:00:15.0	yes
05	DARK TUNGSTEN	WFC3/UVIS	1	24-Jul-2025 16:00:16.0	yes
06	DARK TUNGSTEN	WFC3/UVIS	1	24-Jul-2025 16:00:16.0	yes
07	DARK TUNGSTEN	WFC3/UVIS	1	24-Jul-2025 16:00:17.0	yes
08	DARK TUNGSTEN	WFC3/UVIS	1	24-Jul-2025 16:00:17.0	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>
09	DARK TUNGSTEN	WFC3/UVIS	1	24-Jul-2025 16:00:17.0	yes
10	DARK TUNGSTEN	WFC3/UVIS	1	24-Jul-2025 16:00:18.0	yes
11	DARK TUNGSTEN	WFC3/UVIS	1	24-Jul-2025 16:00:18.0	yes
12	DARK TUNGSTEN	WFC3/UVIS	1	24-Jul-2025 16:00:19.0	yes

12 Total Orbits Used

ABSTRACT

This proposal measures CTI (Charge Transfer Inefficiency) for WFC3/UVIS, making use of the EPER mode, Extended Pixel Edge Response. EPER is not unique to WFC3 (also used on ACS) and measures trailing charge in detector overscan regions increased by extended pixels. The EPER program has many cycles worth of similar comparison, including proposals 11924, 12347, 12691, 13082, 12565, 14011, 14377, 14540, 14989, 15575, 15720, 16400, 17008, 17353, 17673

OBSERVING DESCRIPTION

In this 12 orbit program we take pairs of internal flat fields at varying levels of illumination. We take "biases" for this proposals as 1/2 second darks; WFC3/UVIS flight software is unable to take 0 second exposures in the non-standard EPER mode. Every visit pair includes two half-second darks, three F390M internal tungsten flats, and two F438W internal flats. The proposal lasts a full year, made up of 8 week visit pair increments .

The analysis is done with a pipeline to remove noise, calibrate images, and look for trends in CTI data, based on the work of Robberto (ISR 2007-13), automated by Bourque & Kozhurina-Platais (TIR 2012-03), and furthered by Khandrika (ISR 2020-06) and O'Connor & Khandrika (ISR 2025-02).

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

Formerly, EPER programs took monthly instead of bi-monthly data.

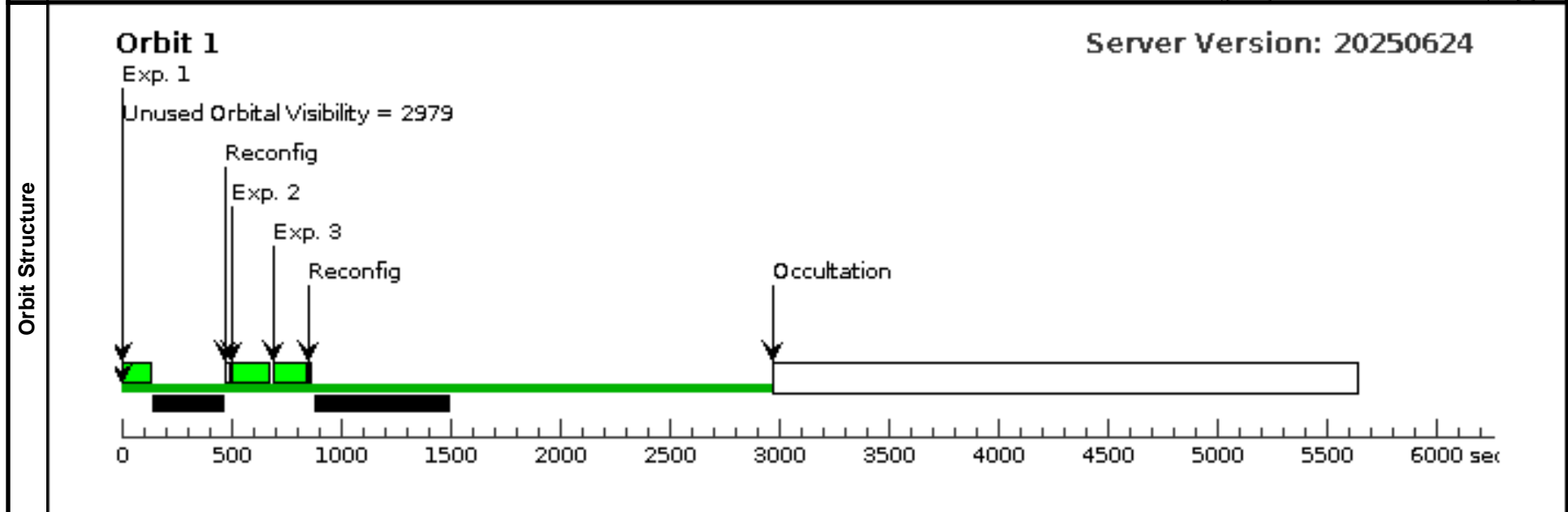
Proposal 17952 - Visit 01 - WFC3 UVIS CTI Monitor (EPER)

Thu Jul 24 20:00:19 GMT 2025

Visit	Proposal 17952, Visit 01 Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 03-NOV-2025:00:00:00 AND 01-DEC-2025:00:00:00; GROUP 01,02 WITHIN 1D
	(Visit 01) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED (Visit 01) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED (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	(Visit 01) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED (Visit 01) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED (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
	(Visit 01) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED (Visit 01) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED (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

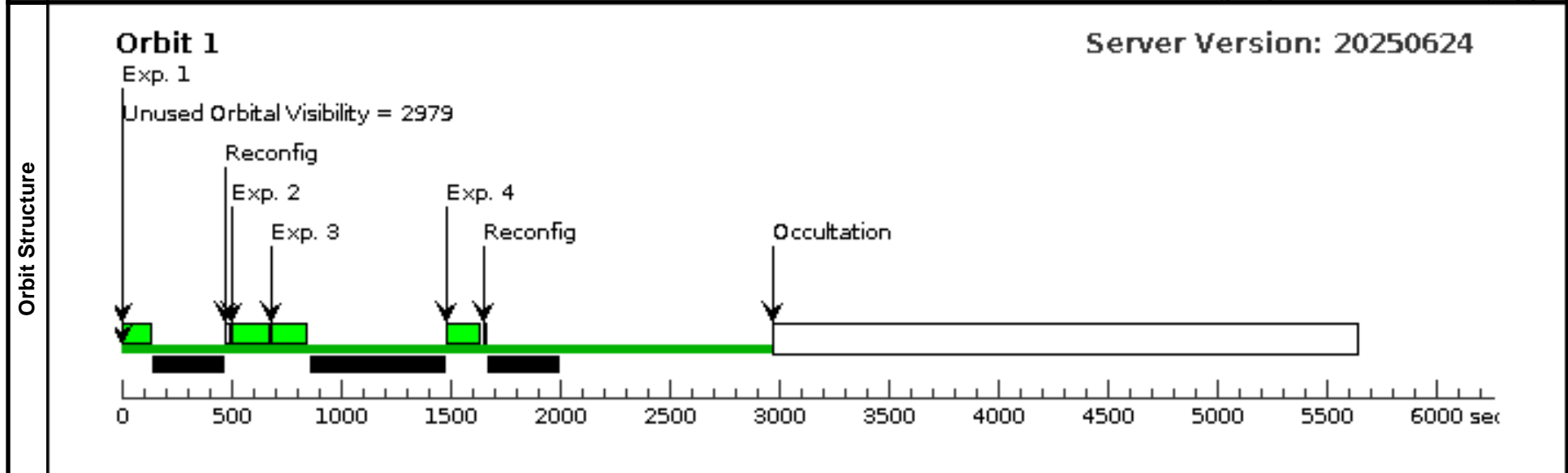
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
		1	0.5	DARK	WFC3/UVIS, ACCUM, UVIS	DEF	CTE=EPER			0.5 Secs (0.5 Secs)
									[==>]	[1]
	2	9.2	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F390M	CTE=EPER			9.2 Secs (9.2 Secs)	
	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



Visit	Proposal 17952, 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 VISIT									
	(Visit 02) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED									
	(Visit 02) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED									
	(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]	



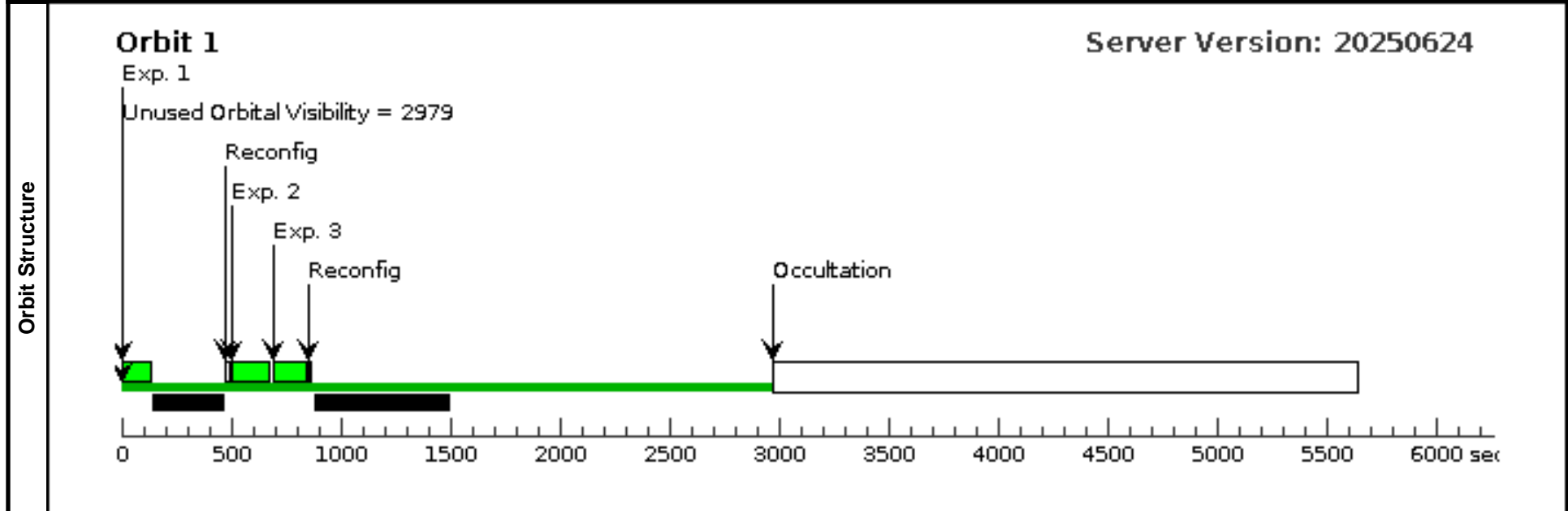
Proposal 17952 - Visit 03 - WFC3 UVIS CTI Monitor (EPER)

Thu Jul 24 20:00:19 GMT 2025

Visit	Proposal 17952, Visit 03 Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 01-JAN-2026:00:00:00 AND 01-FEB-2026:00:00:00: GROUP 03,04 WITHIN 1D
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Diagnostics	(Visit 03) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED (Visit 03) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED (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
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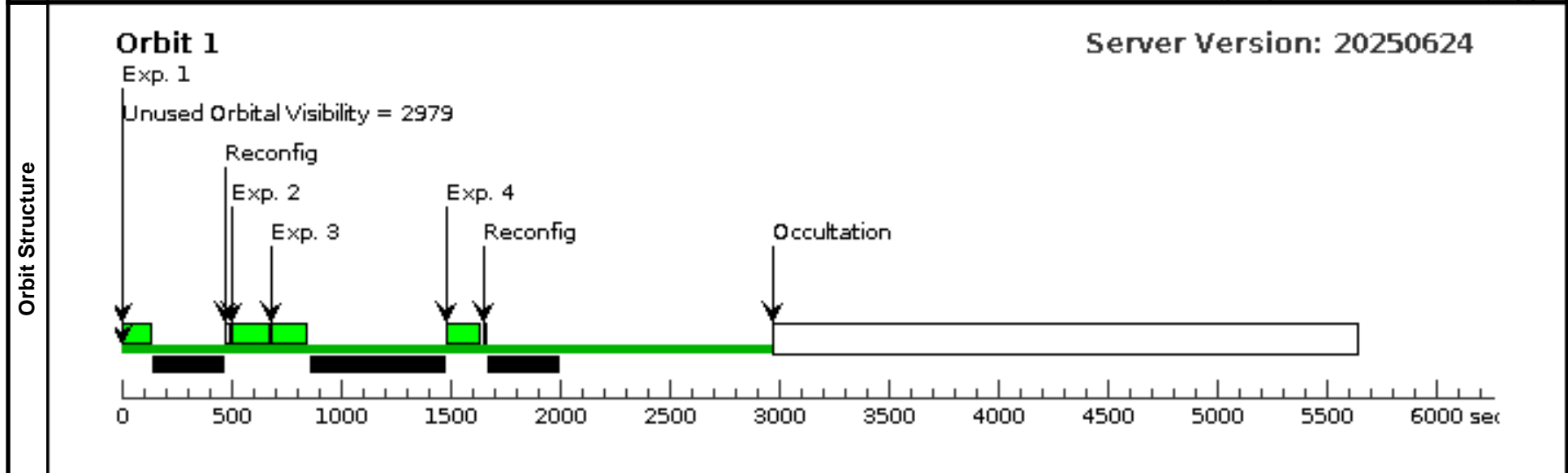
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	0.5	DARK	WFC3/UVIS, ACCUM, UVIS	DEF	CTE=EPER				0.5 Secs (0.5 Secs) [=>]
2	9.2	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F390M	CTE=EPER				9.2 Secs (9.2 Secs) [=>]	[1]
3	22.9	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F390M	CTE=EPER				22.9 Secs (22.9 Secs) [=>]	[1]



Visit	Proposal 17952, Visit 04									
	Diagnostic Status: Warning									
	Scientific Instruments: WFC3/UVIS									
	Special Requirements: (none)									

Diagnostics	(Visit 04) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB VISIT									
	(Visit 04) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED									
	(Visit 04) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED									
	(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										

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]	



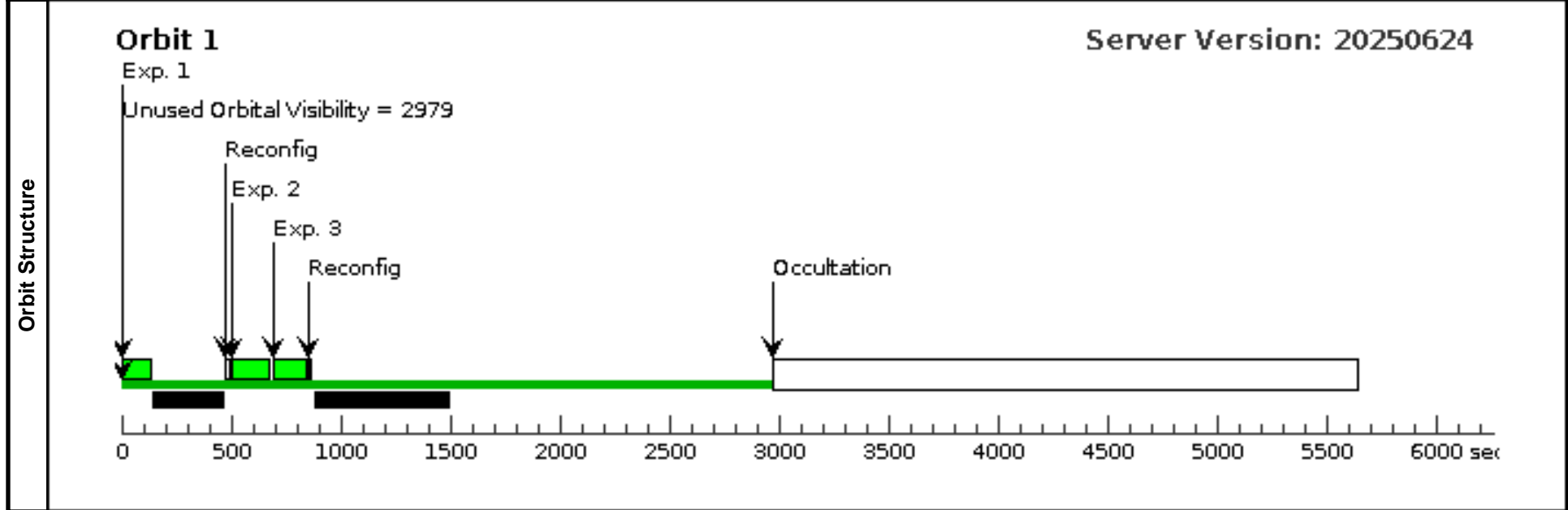
Proposal 17952 - Visit 05 - WFC3 UVIS CTI Monitor (EPER)

Thu Jul 24 20:00:19 GMT 2025

Visit	Proposal 17952, Visit 05 Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 01-MAR-2026:00:00:00 AND 01-APR-2026:00:00:00; GROUP 05.06 WITHIN 1D
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Diagnostics	(Visit 05) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED (Visit 05) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED (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
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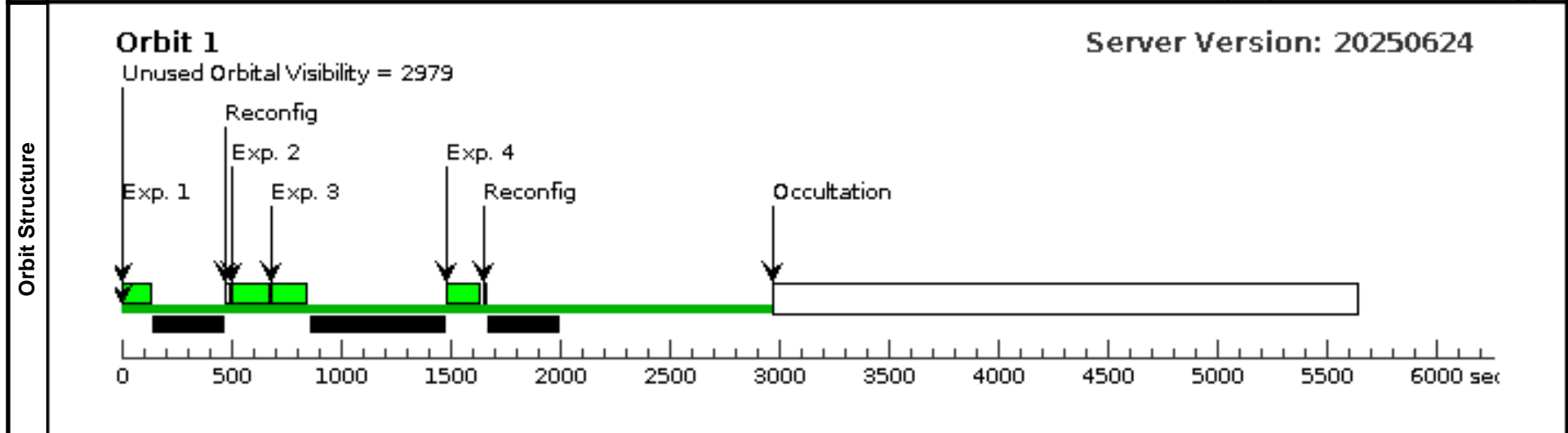
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	0.5	DARK	WFC3/UVIS, ACCUM, UVIS	DEF	CTE=EPER			0.5 Secs (0.5 Secs) [==>]	[1]
2	9.2	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F390M	CTE=EPER			9.2 Secs (9.2 Secs) [==>]	[1]
3	22.9	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F390M	CTE=EPER			22.9 Secs (22.9 Secs) [==>]	[1]



Visit	Proposal 17952, Visit 06									
	Diagnostic Status: Warning									
	Scientific Instruments: WFC3/UVIS									
	Special Requirements: (none)									

Diagnostics	(Visit 06) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB VISIT									
	(Visit 06) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED									
	(Visit 06) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED									
	(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										

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]	



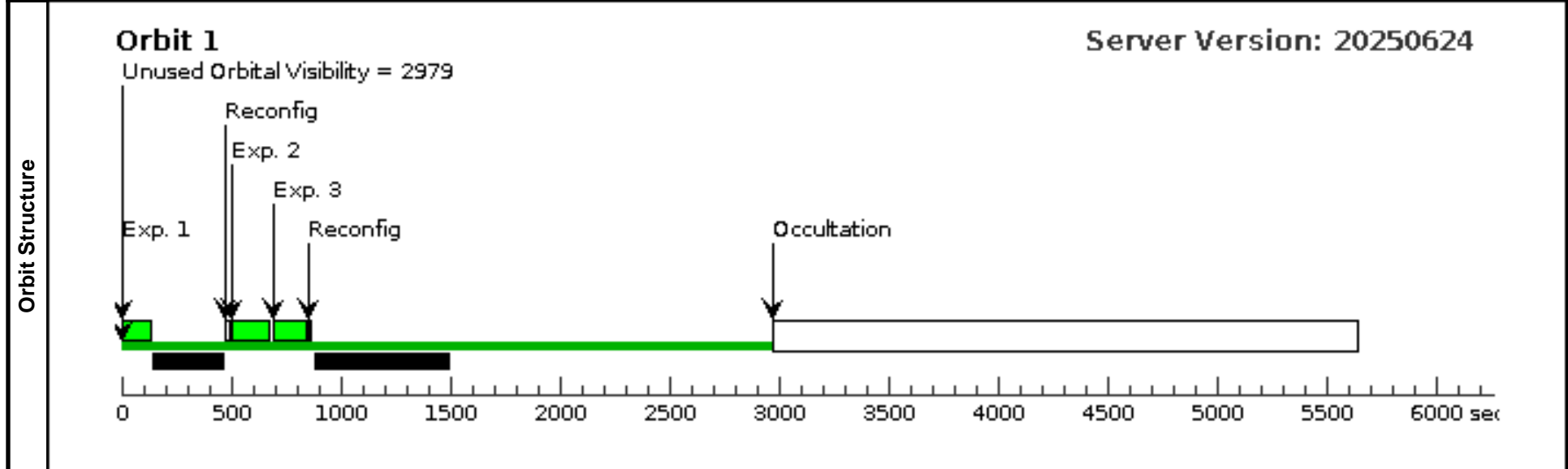
Proposal 17952 - Visit 07 - WFC3 UVIS CTI Monitor (EPER)

Thu Jul 24 20:00:19 GMT 2025

Visit	Proposal 17952, Visit 07 Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 01-MAY-2026:00:00:00 AND 01-JUN-2026:00:00:00; GROUP 07.08 WITHIN 1D
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Diagnostics	(Visit 07) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED (Visit 07) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED (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
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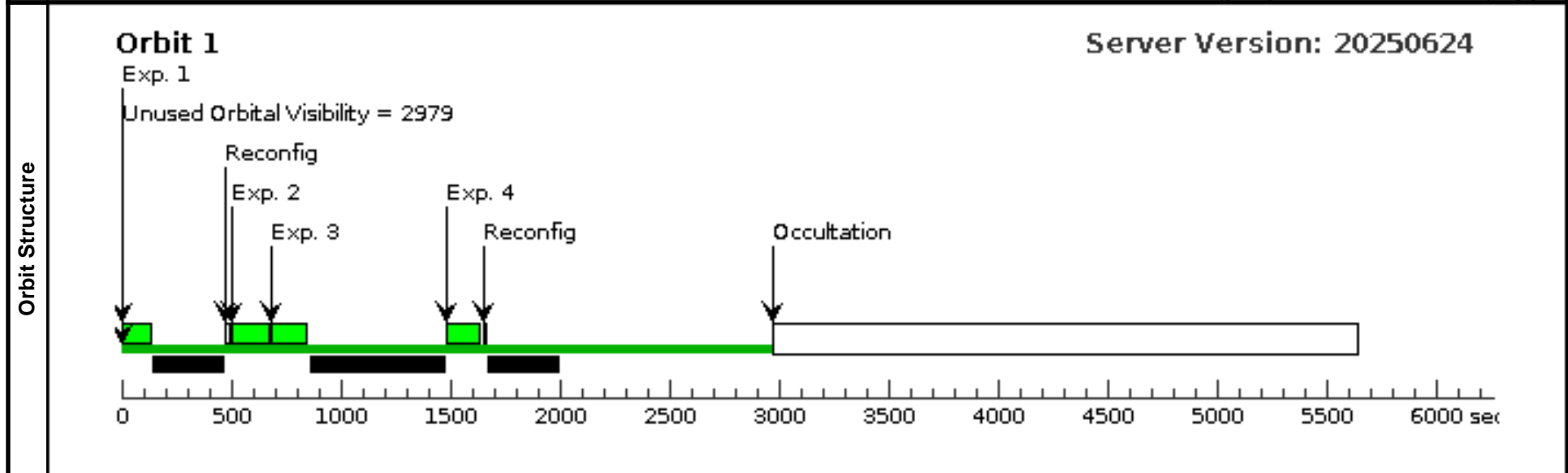
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	0.5	DARK	WFC3/UVIS, ACCUM, UVIS	DEF	CTE=EPER				0.5 Secs (0.5 Secs) [==>]
2	9.2	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F390M	CTE=EPER				9.2 Secs (9.2 Secs) [==>]	[1]
3	22.9	TUNGSTEN	WFC3/UVIS, ACCUM, UVIS	F390M	CTE=EPER				22.9 Secs (22.9 Secs) [==>]	[1]



Visit	Proposal 17952, Visit 08	
	Diagnostic Status: Warning	
	Scientific Instruments: WFC3/UVIS	
	Special Requirements: (none)	

Diagnostics	(Visit 08) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB VISIT
	(Visit 08) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED
	(Visit 08) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED
	(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
	(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

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]	



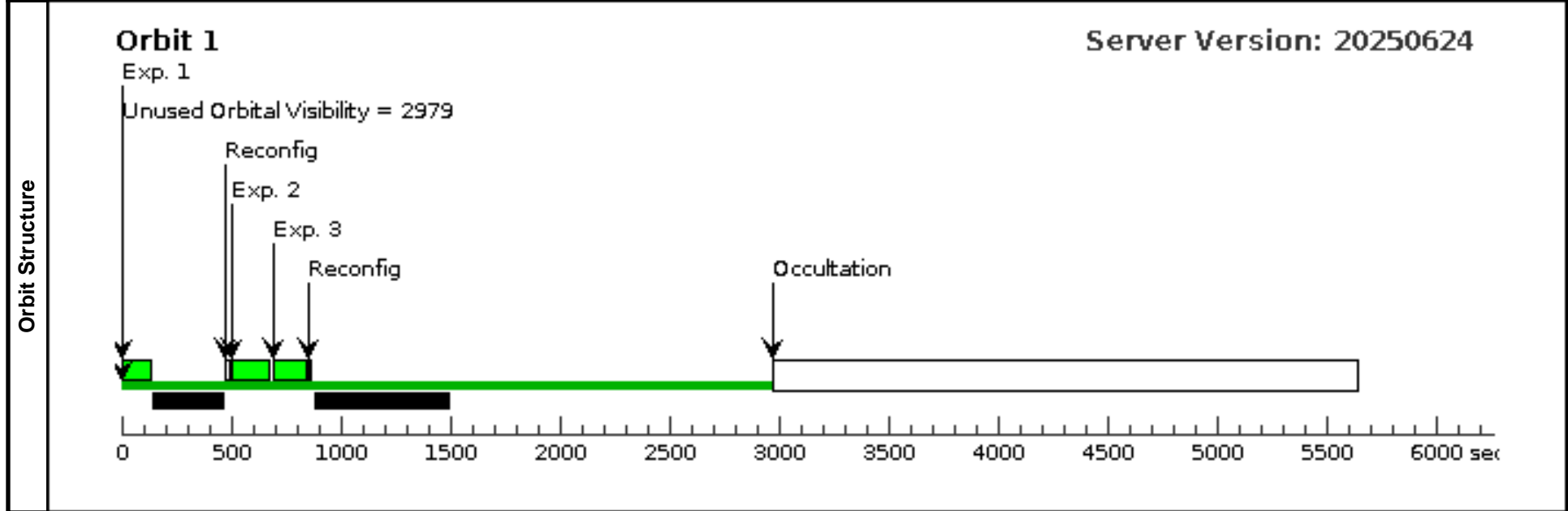
Proposal 17952 - Visit 09 - WFC3 UVIS CTI Monitor (EPER)

Thu Jul 24 20:00:19 GMT 2025

Visit	Proposal 17952, Visit 09 Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 01-JUL-2026:00:00:00 AND 01-AUG-2026:00:00:00; GROUP 09.10 WITHIN 1D
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Diagnostics	(Visit 09) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED (Visit 09) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED (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
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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	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]



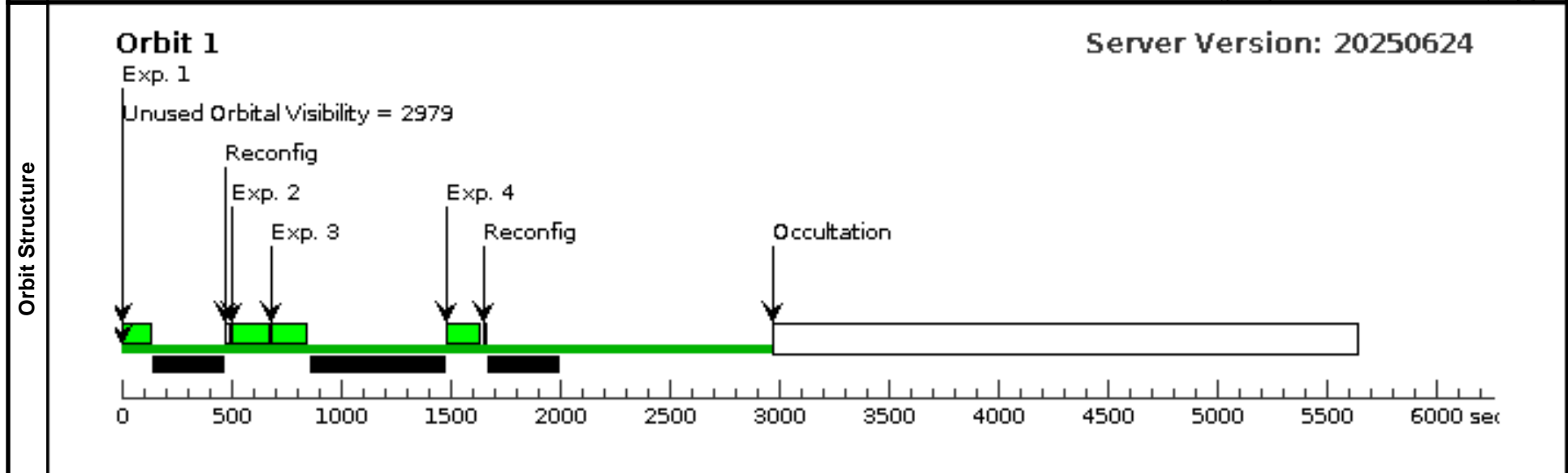
Proposal 17952 - Visit 10 - WFC3 UVIS CTI Monitor (EPER)

Thu Jul 24 20:00:19 GMT 2025

Visit	Proposal 17952, 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 VISIT									
	(Visit 10) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED									
	(Visit 10) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED									
	(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									

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]	



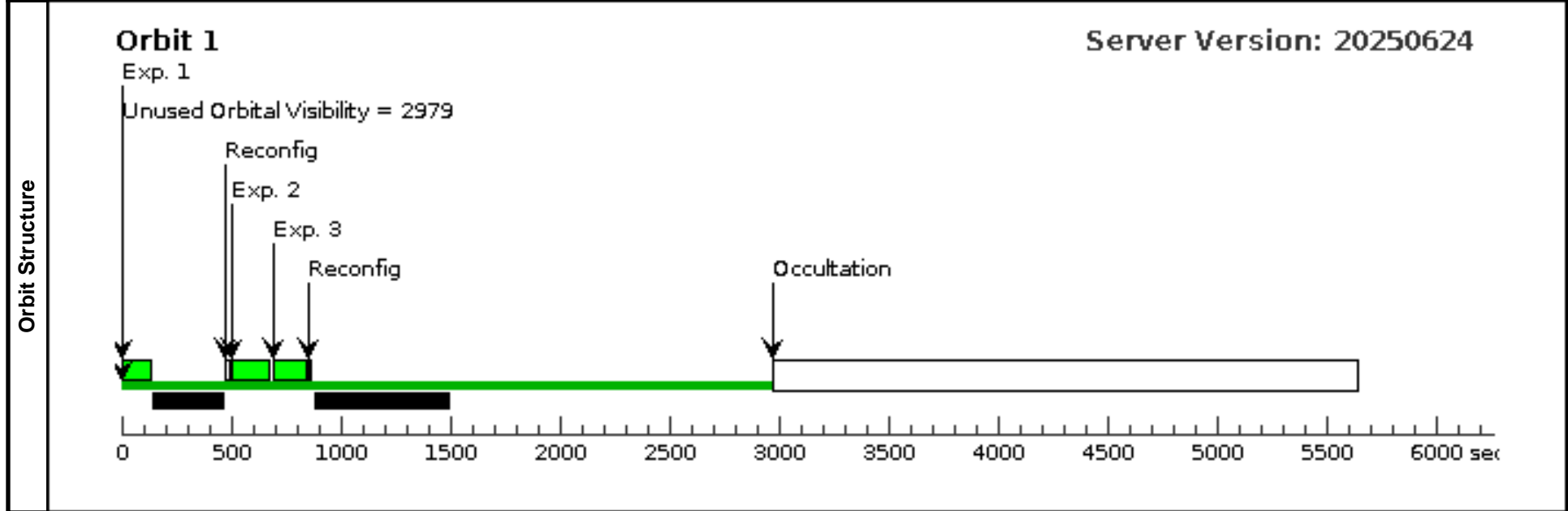
Proposal 17952 - Visit 11 - WFC3 UVIS CTI Monitor (EPER)

Thu Jul 24 20:00:19 GMT 2025

Visit	Proposal 17952, Visit 11 Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 01-SEP-2026:00:00:00 AND 01-OCT-2026:00:00:00: GROUP 11,12 WITHIN 1D
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Diagnostics	(Visit 11) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED
	(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

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	Proposal 17952, Visit 12	
	Diagnostic Status: Warning	
	Scientific Instruments: WFC3/UVIS	
	Special Requirements: (none)	

Diagnostics	(Visit 12) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB VISIT
	(Visit 12) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED
	(Visit 12) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED
	(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

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]	

