



17339 - ACS Internal Flat Fields

Cycle: 31, Proposal Category: CAL/ACS

(Availability Mode: RESTRICTED)

INVESTIGATORS

<i>Name</i>	<i>Institution</i>
Yotam Cohen (PI) (Contact)	Space Telescope Science Institute

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	TUNGSTEN	ACS/WFC	1	25-Jul-2023 11:00:15.0	yes
02	TUNGSTEN	ACS/WFC	1	25-Jul-2023 11:00:15.0	yes
03	TUNGSTEN	ACS/WFC	1	25-Jul-2023 11:00:16.0	yes
04	TUNGSTEN	ACS/WFC	1	25-Jul-2023 11:00:16.0	yes
05	TUNGSTEN	ACS/WFC	1	25-Jul-2023 11:00:16.0	yes
06	TUNGSTEN	ACS/WFC	1	25-Jul-2023 11:00:17.0	yes
07	TUNGSTEN	ACS/WFC	1	25-Jul-2023 11:00:17.0	yes
08	TUNGSTEN	ACS/WFC	1	25-Jul-2023 11:00:17.0	yes
09	TUNGSTEN	ACS/WFC	1	25-Jul-2023 11:00:18.0	yes
10	TUNGSTEN	ACS/WFC	1	25-Jul-2023 11:00:18.0	yes
11	TUNGSTEN	ACS/WFC	1	25-Jul-2023 11:00:19.0	yes
12	TUNGSTEN	ACS/WFC	1	25-Jul-2023 11:00:19.0	yes
13	TUNGSTEN	ACS/WFC	1	25-Jul-2023 11:00:19.0	yes
14	TUNGSTEN	ACS/WFC	1	25-Jul-2023 11:00:20.0	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>
15	TUNGSTEN	ACS/WFC	1	25-Jul-2023 11:00:20.0	yes
16	TUNGSTEN	ACS/WFC	1	25-Jul-2023 11:00:20.0	yes

16 Total Orbits Used

ABSTRACT

The stability of the CCD flat fields will be monitored using the calibration lamps. One set of observations for all the filters and another at a different epoch for a subset of filters will be taken during this cycle. High signal observations will be used to assess the stability of the pixel-to-pixel flat field structure, to analyze image artifacts such as the newly discovered flecks, and to monitor the position of the dust motes.

OBSERVING DESCRIPTION

Internal flats will be obtained for the WFC detector using the tungsten lamp. One set of internal flats will be obtained for the entire filter set about 2-3 months into the cycle. Another set will be obtained using a subset of filters (F435W, F625W, F814W, and F850LP) about 6 months after the first set. High signal observations will be used to assess the stability of the pixel-to-pixel flat field structure, to analyze image artifacts such as the newly discovered flecks, and to monitor the presence of dust motes. Any changes in time of P-flats will also be tracked.

Note: Due to increases in exposure time to account for lamp dimming, orbits have now exceeded the 1800 second recommended maximum. To mitigate this overrun, last cycle, we changed the program design such that we shifted singletons of the longer exposures into adjacent filters' orbits and vice-versa.

----- Calibration Justification -----

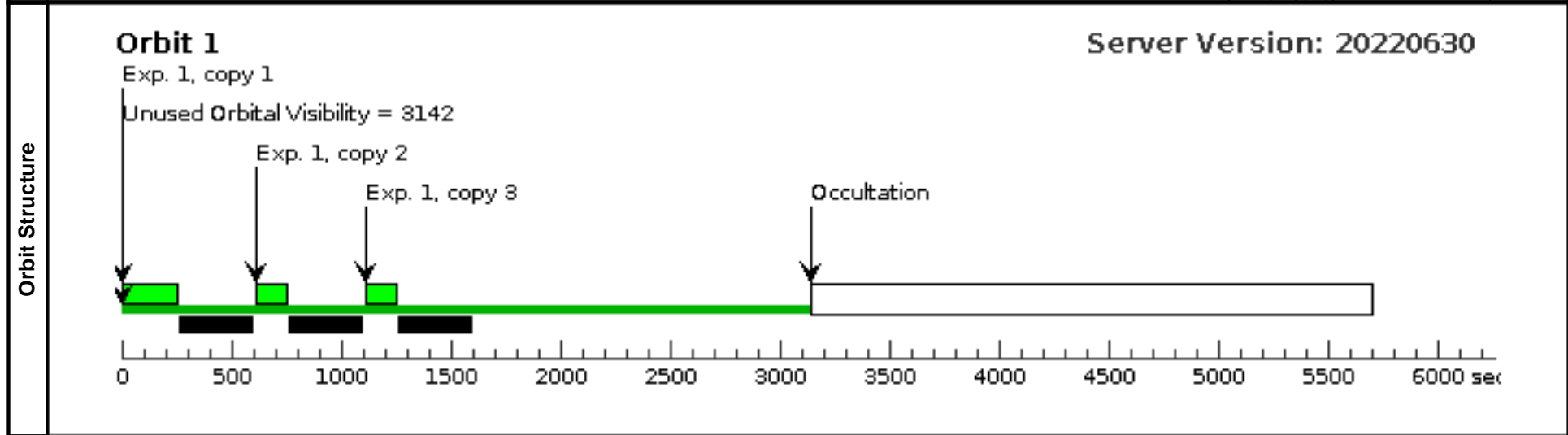
Results from this program will impact the standard flat field calibration files included in the pipeline. The accuracy of the flat field calibration is expected to be better than 1% for WFC broadband filters.

Proposal 17339 - Visit 01 - ACS Internal Flat Fields

Tue Jul 25 15:00:21 GMT 2023

Visit	Proposal 17339, Visit 01									
	Diagnostic Status: No Diagnostics									
	Scientific Instruments: ACS/WFC									
	Special Requirements: BETWEEN 01-DEC-2023:00:00:00 AND 01-JAN-2024:00:00:00									

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	435	TUNGSTEN	ACS/WFC, ACCUM, WFC	F435W					16.9 Secs X 3 (50.7 Secs)
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
									[==>(Copy 3)]	

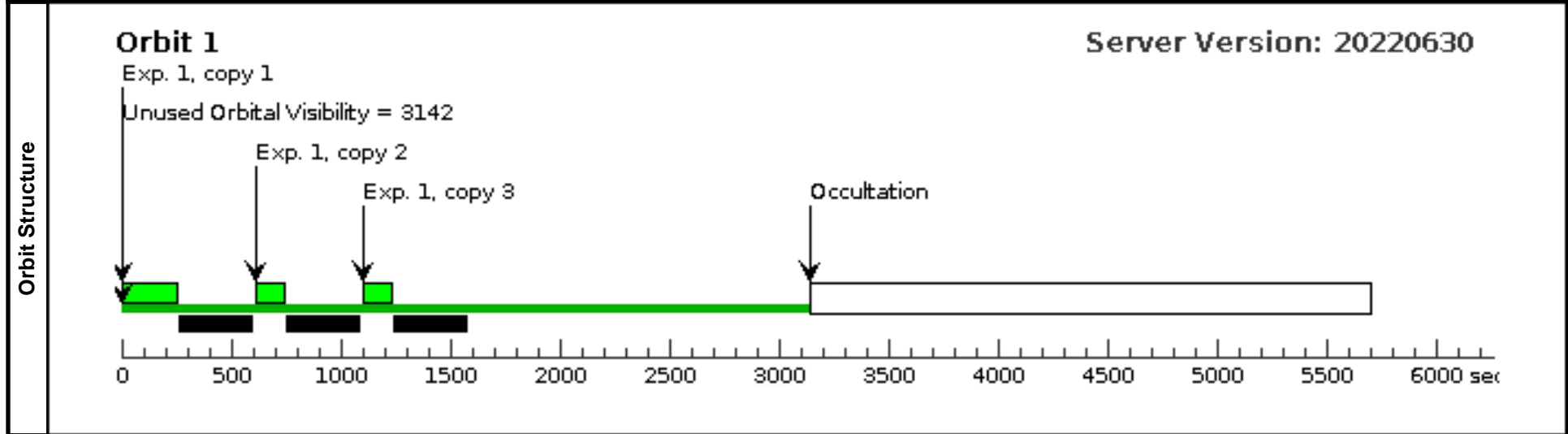


Proposal 17339 - Visit 02 - ACS Internal Flat Fields

Tue Jul 25 15:00:21 GMT 2023

Visit	Proposal 17339, Visit 02									
	Diagnostic Status: No Diagnostics									
	Scientific Instruments: ACS/WFC									
	Special Requirements: BETWEEN 01-DEC-2023:00:00:00 AND 01-JAN-2024:00:00:00									

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	475	TUNGSTEN	ACS/WFC, ACCUM, WFC	F475W					5.3 Secs X 3 (15.9 Secs)
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
									[==>(Copy 3)]	

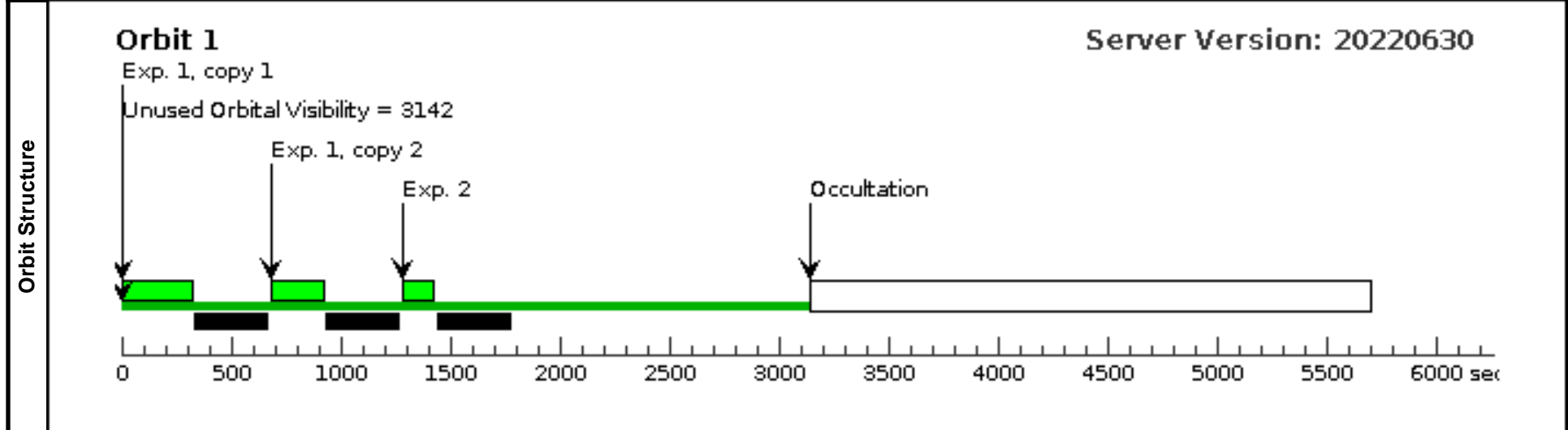


Proposal 17339 - Visit 03 - ACS Internal Flat Fields

Tue Jul 25 15:00:21 GMT 2023

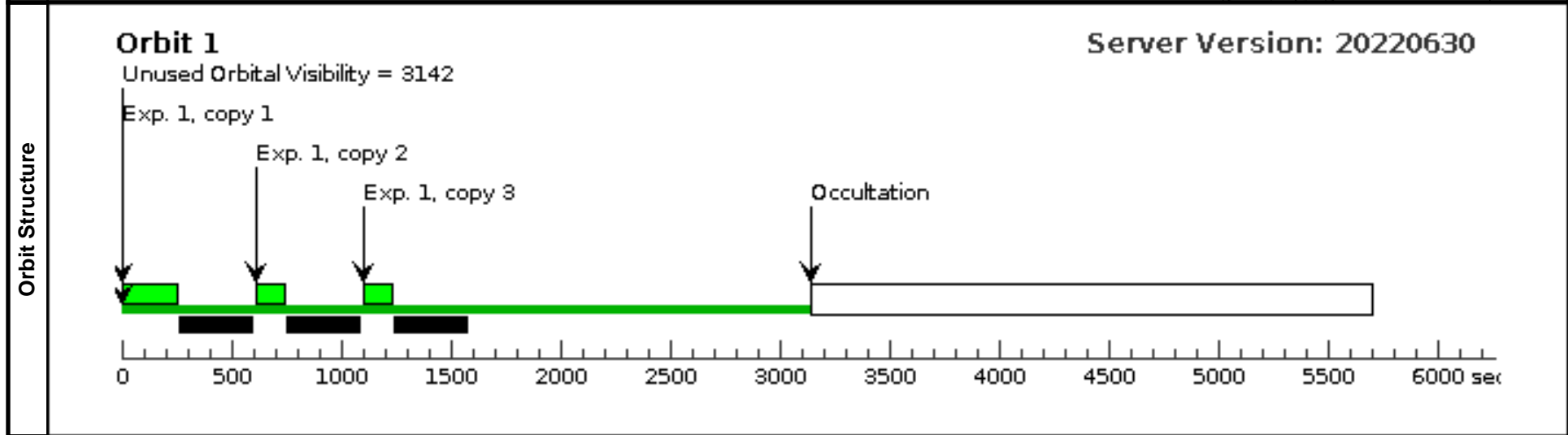
Visit	Proposal 17339, Visit 03									
	Diagnostic Status: No Diagnostics									
	Scientific Instruments: ACS/WFC									
	Special Requirements: BETWEEN 01-DEC-2023:00:00:00 AND 01-JAN-2024:00:00:00									

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	502	TUNGSTEN	ACS/WFC, ACCUM, WFC	F502N					116.8 Secs X 2 (233.6 Secs)
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
2	606	TUNGSTEN	ACS/WFC, ACCUM, WFC	F606W					1.9 Secs (1.9 Secs)	
									[==>]	[1]



Visit	Proposal 17339, Visit 04									
	Diagnostic Status: No Diagnostics									
	Scientific Instruments: ACS/WFC									
	Special Requirements: BETWEEN 01-DEC-2023:00:00:00 AND 01-JAN-2024:00:00:00									

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	550	TUNGSTEN	ACS/WFC, ACCUM, WFC	F550M					7.0 Secs X 3 (21 Secs)
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
									[==>(Copy 3)]	

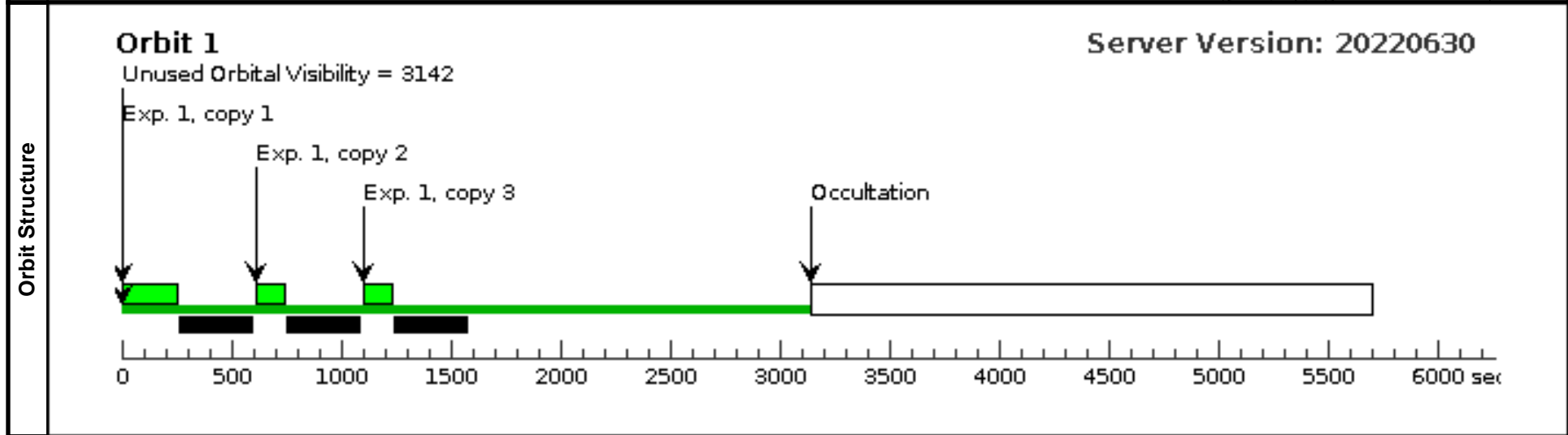


Proposal 17339 - Visit 05 - ACS Internal Flat Fields

Tue Jul 25 15:00:21 GMT 2023

Visit	Proposal 17339, Visit 05									
	Diagnostic Status: No Diagnostics									
	Scientific Instruments: ACS/WFC									
	Special Requirements: BETWEEN 01-DEC-2023:00:00:00 AND 01-JAN-2024:00:00:00									

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	555	TUNGSTEN	ACS/WFC, ACCUM, WFC	F555W					4.0 Secs X 3 (12 Secs)
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
									[==>(Copy 3)]	

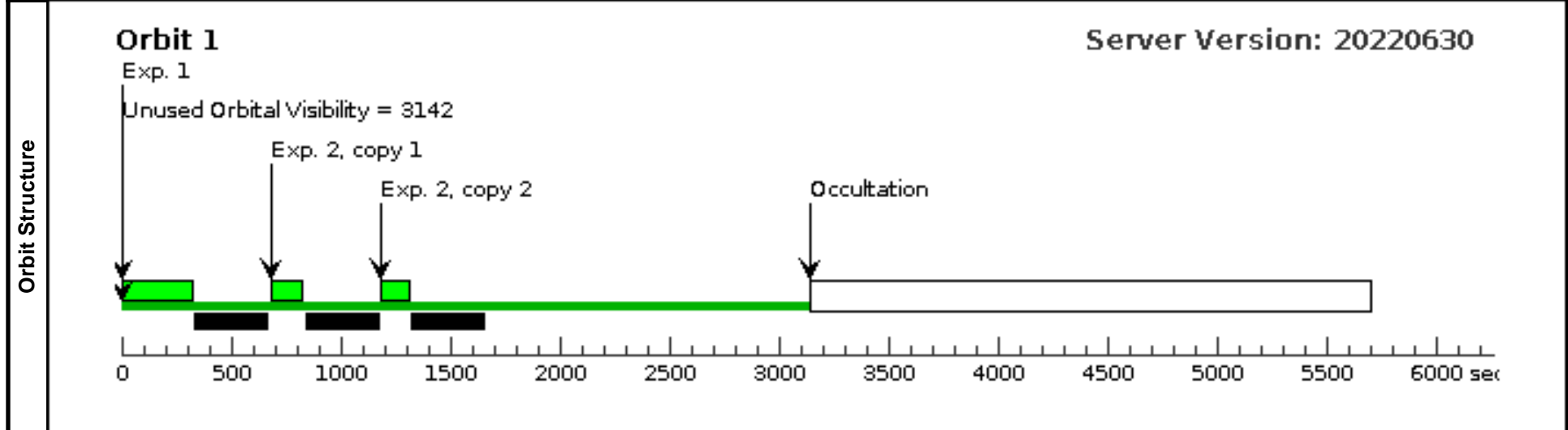


Proposal 17339 - Visit 06 - ACS Internal Flat Fields

Tue Jul 25 15:00:21 GMT 2023

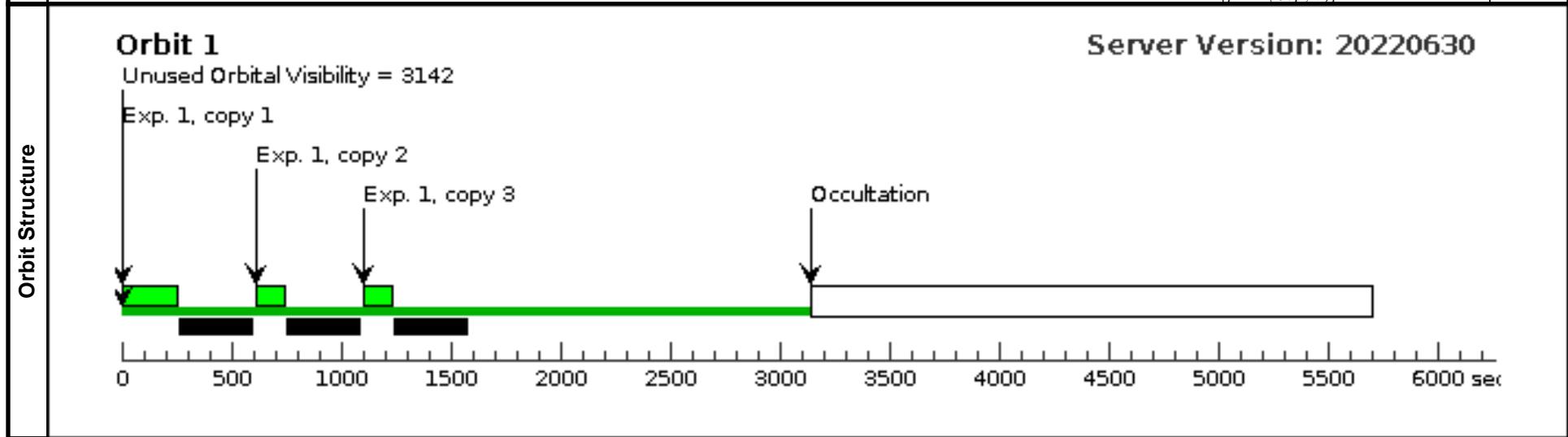
Visit	Proposal 17339, Visit 06									
	Diagnostic Status: No Diagnostics									
	Scientific Instruments: ACS/WFC									
	Special Requirements: BETWEEN 01-DEC-2023:00:00:00 AND 01-JAN-2024:00:00:00									

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	502	TUNGSTEN	ACS/WFC, ACCUM, WFC	F502N					116.8 Secs (116.8 Secs)
									[==>]	[1]
2	606	TUNGSTEN	ACS/WFC, ACCUM, WFC	F606W					1.9 Secs X 2 (3.8 Secs)	
									[==>(Copy 1)]	
									[==>(Copy 2)]	[1]



Visit	Proposal 17339, Visit 07 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: BETWEEN 01-DEC-2023:00:00:00 AND 01-JAN-2024:00:00:00									

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	625	TUNGSTEN	ACS/WFC, ACCUM, WFC	F625W					3.1 Secs X 3 (9.3 Secs)
									[==>(Copy 1)]	
									[==>(Copy 2)]	[1]
									[==>(Copy 3)]	

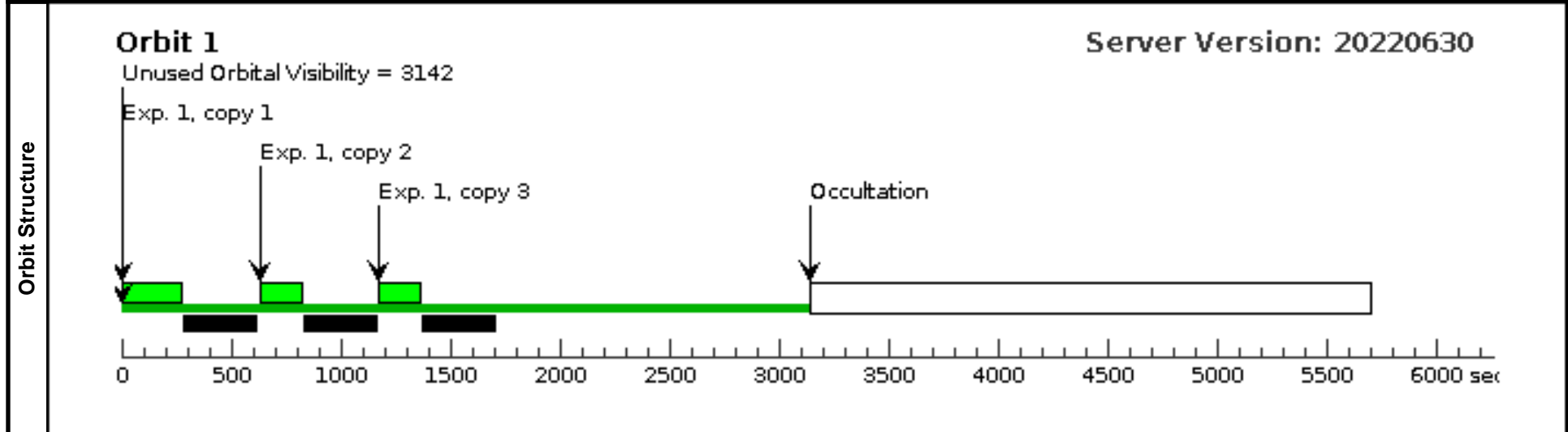


Proposal 17339 - Visit 08 - ACS Internal Flat Fields

Tue Jul 25 15:00:21 GMT 2023

Visit	Proposal 17339, Visit 08									
	Diagnostic Status: No Diagnostics									
	Scientific Instruments: ACS/WFC									
	Special Requirements: BETWEEN 01-DEC-2023:00:00:00 AND 01-JAN-2024:00:00:00									

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	658	TUNGSTEN	ACS/WFC, ACCUM, WFC	F658N					62.5 Secs X 3 (187.5 Secs)
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
									[==>(Copy 3)]	



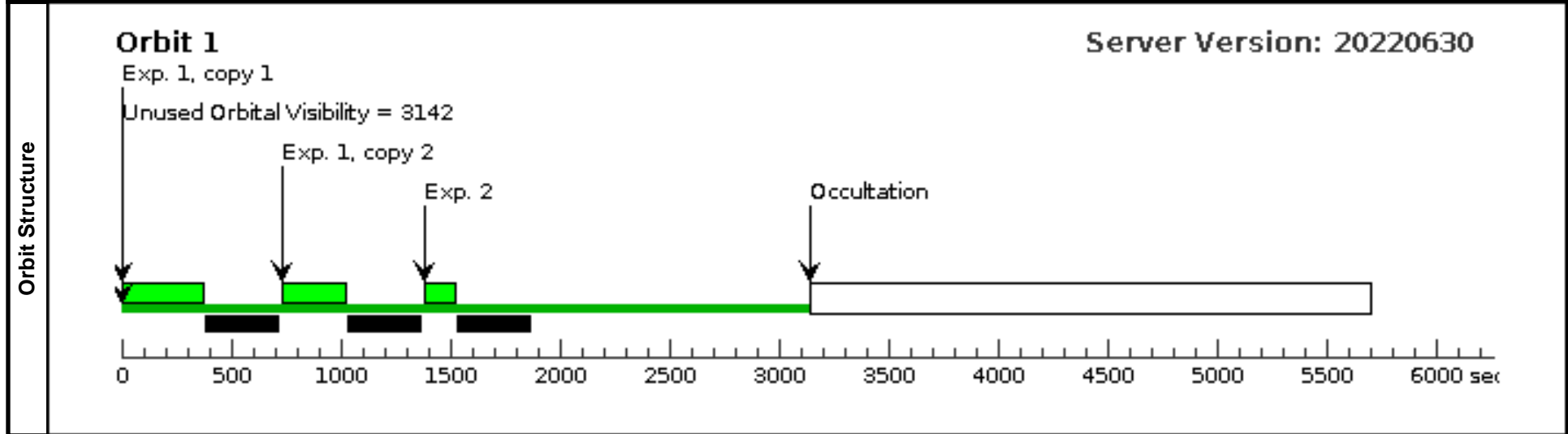
Proposal 17339 - Visit 09 - ACS Internal Flat Fields

Tue Jul 25 15:00:21 GMT 2023

Visit	Proposal 17339, Visit 09 Diagnostic Status: Warning Scientific Instruments: ACS/WFC Special Requirements: BETWEEN 01-DEC-2023:00:00:00 AND 01-JAN-2024:00:00:00

Diagnostics	(Visit 09) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU
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Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	660	TUNGSTEN	ACS/WFC, ACCUM, WFC	F660N				163.5 Secs X 2 (327 Secs)	
									[==>(Copy 1)] [==>(Copy 2)]	[1]
	2	814	TUNGSTEN	ACS/WFC, ACCUM, WFC	F814W				2.9 Secs (2.9 Secs)	
									[==>]	[1]



Proposal 17339 - Visit 10 - ACS Internal Flat Fields

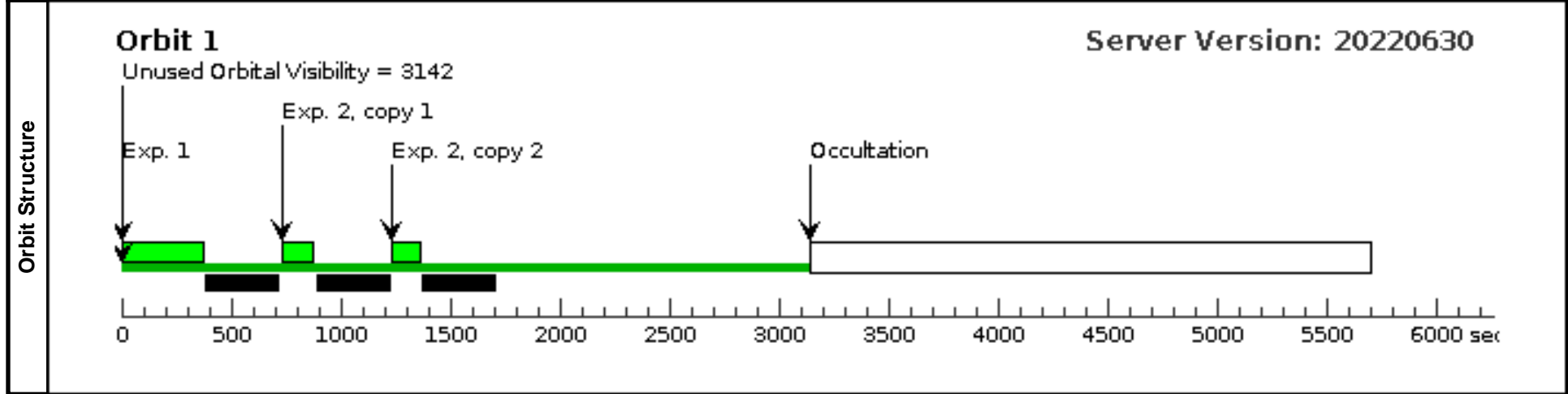
Visit	Proposal 17339, Visit 10 Tue Jul 25 15:00:21 GMT 2023 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: BETWEEN 01-DEC-2023:00:00:00 AND 01-JAN-2024:00:00:00									
	Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]
1		775	TUNGSTEN	ACS/WFC, ACCUM, WFC	F775W				4.5 Secs X 3 (13.5 Secs) [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[1]
Orbit Structure	<p>Orbit 1 Server Version: 20220630</p> <p>Unused Orbital Visibility = 3142</p> <p>Exp. 1, copy 1</p> <p>Exp. 1, copy 2</p> <p>Exp. 1, copy 3</p> <p>Occultation</p> <p>0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 sec</p>									

Proposal 17339 - Visit 11 - ACS Internal Flat Fields

Tue Jul 25 15:00:21 GMT 2023

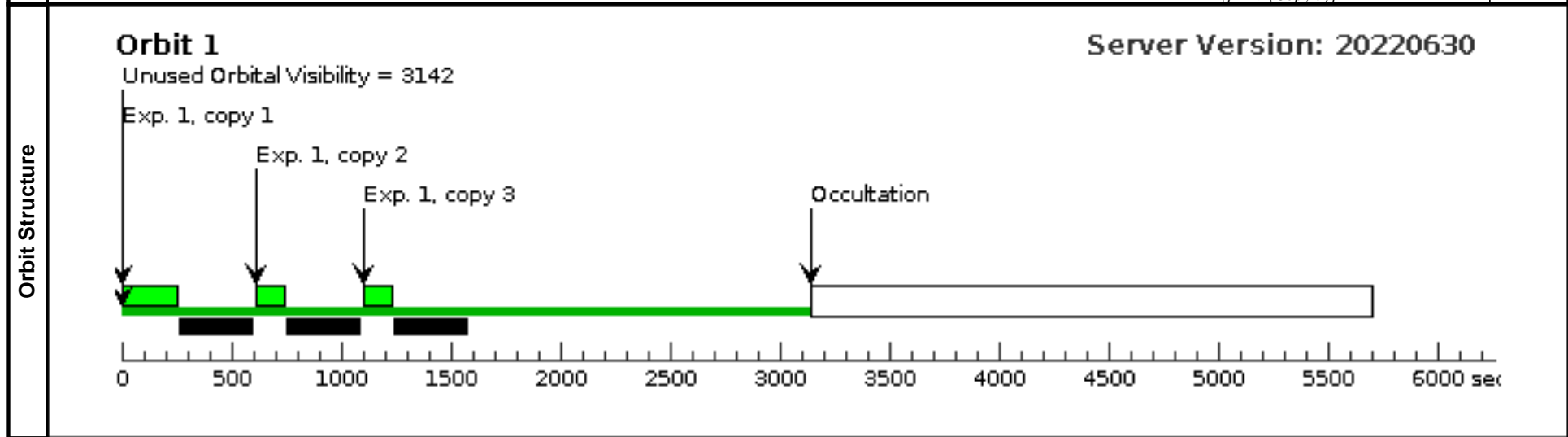
Visit	Proposal 17339, Visit 11									
	Diagnostic Status: No Diagnostics									
	Scientific Instruments: ACS/WFC									
	Special Requirements: BETWEEN 01-DEC-2023:00:00:00 AND 01-JAN-2024:00:00:00									

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	660	TUNGSTEN	ACS/WFC, ACCUM, WFC	F660N					163.5 Secs (163.5 Secs)
									[==>]	[1]
2	814	TUNGSTEN	ACS/WFC, ACCUM, WFC	F814W					2.9 Secs X 2 (5.8 Secs)	
									[==>(Copy 1)]	
									[==>(Copy 2)]	[1]



Visit	Proposal 17339, Visit 12									
	Diagnostic Status: No Diagnostics									
	Scientific Instruments: ACS/WFC									
	Special Requirements: BETWEEN 01-DEC-2023:00:00:00 AND 01-JAN-2024:00:00:00									

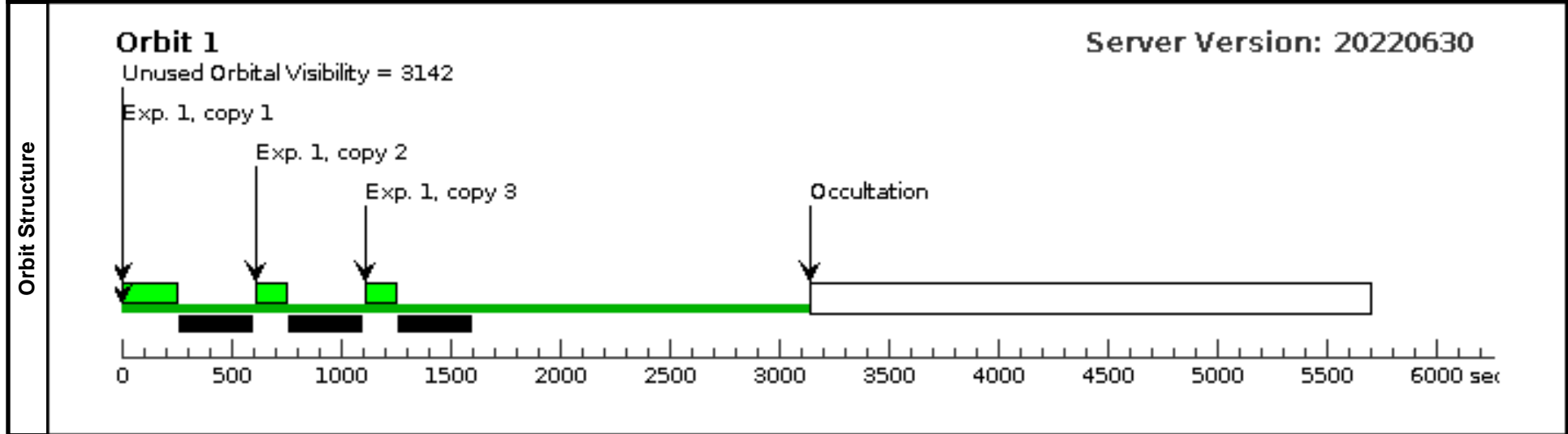
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	850	TUNGSTEN	ACS/WFC, ACCUM, WFC	F850LP					4.5 Secs X 3 (13.5 Secs)
									[==>(Copy 1)]	[1]
									[==>(Copy 2)]	
									[==>(Copy 3)]	



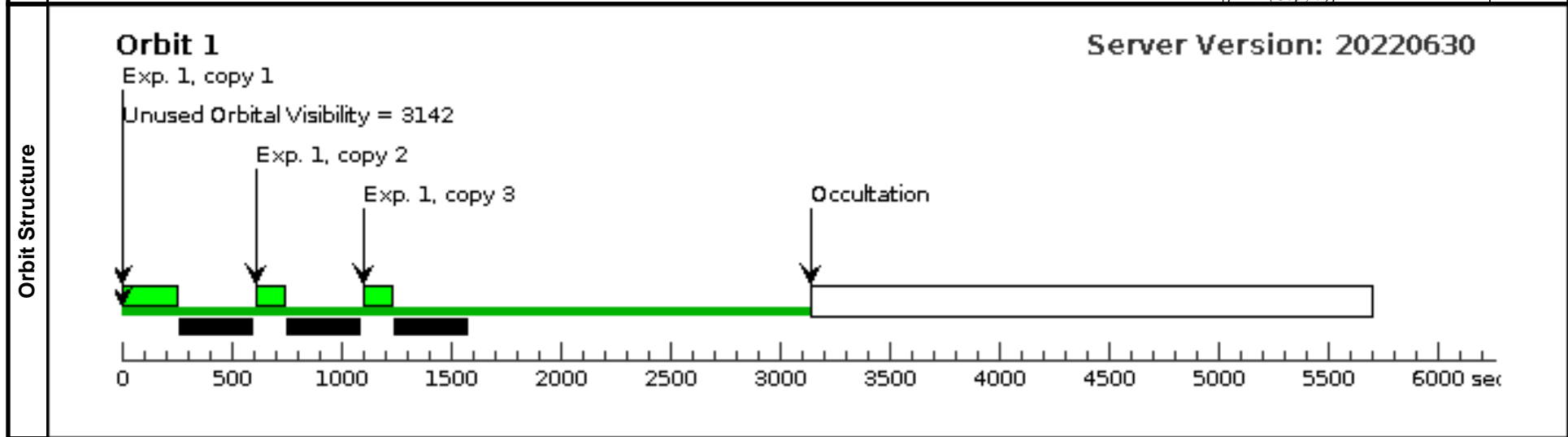
Proposal 17339 - Visit 13 - ACS Internal Flat Fields

Tue Jul 25 15:00:21 GMT 2023

Visit	Proposal 17339, Visit 13 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: BETWEEN 01-JUN-2024:00:00:00 AND 01-JUL-2024:00:00:00									
	Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]
1		435_second	TUNGSTEN	ACS/WFC, ACCUM, WFC	F435W					16.9 Secs X 3 (50.7 Secs) [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]



Visit	Proposal 17339, Visit 14 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: BETWEEN 01-JUN-2024:00:00:00 AND 01-JUL-2024:00:00:00									
	Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]
1		625_second	TUNGSTEN	ACS/WFC, ACCUM, WFC	F625W					3.1 Secs X 3 (9.3 Secs) [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]



Proposal 17339 - Visit 15 - ACS Internal Flat Fields

Visit	Proposal 17339, Visit 15 Tue Jul 25 15:00:21 GMT 2023 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: BETWEEN 01-JUN-2024:00:00:00 AND 01-JUL-2024:00:00:00									
	Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]
1		814_second	TUNGSTEN	ACS/WFC, ACCUM, WFC	F814W				2.9 Secs X 3 (8.7 Secs) [==>(Copy 1)] [==>(Copy 2)] [==>(Copy 3)]	[1]
Orbit Structure	<p>Orbit 1 Server Version: 20220630</p> <p>Unused Orbital Visibility = 3142</p> <p>The timeline shows a green bar from 0 to ~1500s, followed by three small green bars at ~600s, ~1000s, and ~1200s. Black bars indicate occultation periods. A long white bar indicates the occultation period starting at approximately 3142 seconds and ending at ~5700s.</p>									
	<p>Exp. 1, copy 1</p> <p>Exp. 1, copy 2</p> <p>Exp. 1, copy 3</p> <p>Occultation</p> <p>0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 sec</p>									

Proposal 17339 - Visit 16 - ACS Internal Flat Fields

Tue Jul 25 15:00:21 GMT 2023

Visit	Proposal 17339, Visit 16 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: BETWEEN 01-JUN-2024:00:00:00 AND 01-JUL-2024:00:00:00										
	Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	
1		850_second	TUNGSTEN	ACS/WFC, ACCUM, WFC	F850LP					4.5 Secs X 3 (13.5 Secs)	[1]
									[==>(Copy 1)]		
									[==>(Copy 2)]		
									[==>(Copy 3)]		

