



16401 - WFC3 UVIS CTE Monitor (Star Cluster)

Cycle: 28, Proposal Category: CAL/WFC3

(Availability Mode: RESTRICTED)

INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
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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	(2) OMEGACEN	WFC3/UVIS	2	01-Jul-2021 17:00:16.0	yes
02	(1) NGC-104	WFC3/UVIS	3	01-Jul-2021 17:00:19.0	yes
03	(1) NGC-104	WFC3/UVIS	3	01-Jul-2021 17:00:22.0	yes

8 Total Orbits Used

ABSTRACT

This program is a recurring UVIS calibration monitor that will observe two stellar clusters (Omega Centauri, and 47 Tuc) to measure the flux loss of point sources as a function of detector row number due to degrading Charge Transfer Efficiency (CTE). Because CTE is known to fluctuate with characteristics such as source flux and background level, this program is designed to take short and long exposures, at various commanded post-flash levels with the F502N filter. We will compare the results from these new observations with previous external CTE calibration programs and update the aperture photometry-based CTE model. Furthermore, ACS has an external CTE calibration program that observes NGC-104 at various post-flash levels that can also be used for direct comparison. Lastly, these data will be used to help monitor/improve the empirical pixel-based CTE correction

OBSERVING DESCRIPTION

Using clusters to measure the UVIS CTE relies on image pairs that have a ~ 2000 pixel (~ 1 chip height) dither. Each field is first observed in UVIS2, and then dithered in the y-direction by a 81.6 arcsecond step (UVIS pixel scale ~ 0.04 arcsec/pixel), and then an identical exposure of the same field is taken in UVIS1. This allows a source that is near an amplifier in one chip (exposure) to be further from an amplifier in the other chip (exposure) enabling an absolute measure of the CTE. With varying field density, post flash, and exposure length, we build and maintain a CTE model based on many parameters.

In the past, the external CTE monitor has observed globular cluster NGC-104 (47 Tuc), and open cluster NGC-6791. The sparseness of NGC-6791 compared to 47 Tuc was used to test the effects of self-shielding on CTE-induced flux losses. However, the CTE trending between the two targets has not shown a significant difference. Therefore, starting this cycle (28) we will swap out NGC-6791 for Omega Centauri. Switching to Omega Centauri will provide significantly more stars, particularly at the faint end, which will improve the CTE measurements. Each cluster will have long and short exposures taken. NGC-104 short exposures will have 0 and 12 e-/pixel post-flash and Omega Centauri will have 0 and 6 e-/pixel post-flash. The long exposure Omega Centauri images will be taken with 4, 8, 12, and 17 e-/pixel post-flash. NGC-104 long exposures will use a variety of post-flash levels: 0, 6, 12, 18, 24, 33, 55, 91, and 116 e-/pixel. All observations use the F502N filter.

Because of the ~ 2000 pixel dither any warnings about the target being outside of the aperture can be ignored. Any warnings regarding post-flash may also be ignored since we're trying to simulate background levels with low/high commanded post-flashes.

----- Scheduling -----

The CTE long-term monitoring observations has normally been taken at two epochs each cycle, starting six months after the last. The first epoch is typically scheduled in January/February 2021, the second epoch in July/August 2021.

However this cycle we will change the schedule to help improve and expedite the

ongoing work of the pixel-based CTE correction. Rather than observe Omega Centauri and NGC-104 during Jan. - Feb. 2021 we will observe only Omega Centauri between 02 Nov. 2020 - 28 Feb. 2021.

We no longer require that both pairs of Omega Centauri and 47 Tuc observations are taken within seven days from each other. Instead we will sample all of Omega Centauri before the end of January 2021 and follow the same "betweens" as previous cycles for the remaining 2 visits of NGC-104 (Jan. 1 2021 - Feb. 28 2021 & July. 1 2021 - August. 31 2021). We have set visit-level timing requirements accordingly.

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

These data will be used to determine the evolution of CTE with epoch, position on the detector, and flash-level (i.e. background). Varying the background levels via post-flash will allow us to monitor the effects of post-flash to mitigate CTE. Results will be compared to Cycles 17-27 CTE measurements for WFC3/UVIS CCDs.

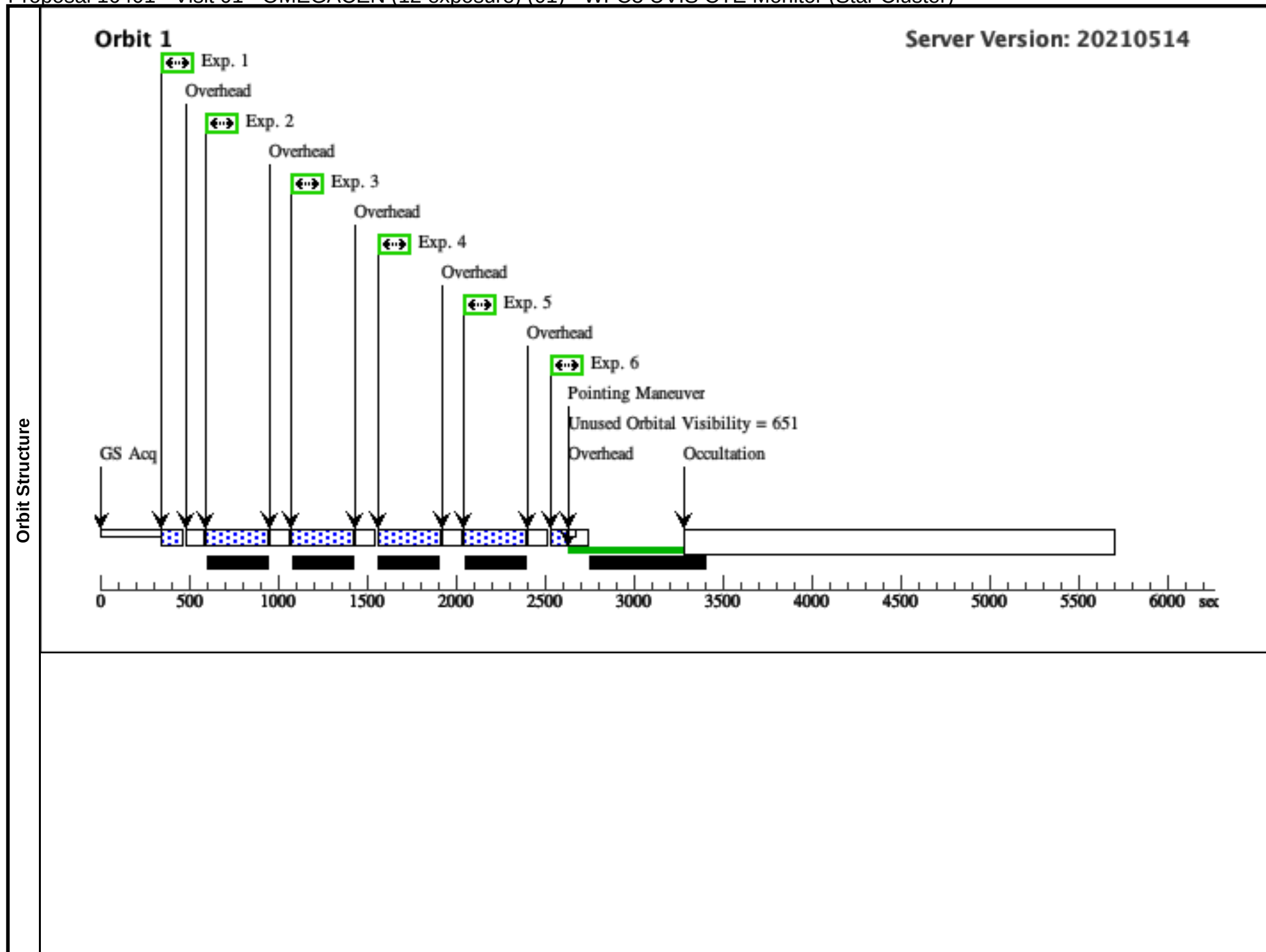
The analysis of the data will be used to continue calibrating a model of CTE-induced losses in both FLT and DRZ UVIS images, with a precision of better than 1% for stellar photometry and less than 5% for astrometric effects from CTE-induced source centroid shifts. Additionally, all exposures taken in this program will also be used to test and improve the pixel-based UVIS CTE correction algorithm developed by J. Anderson.

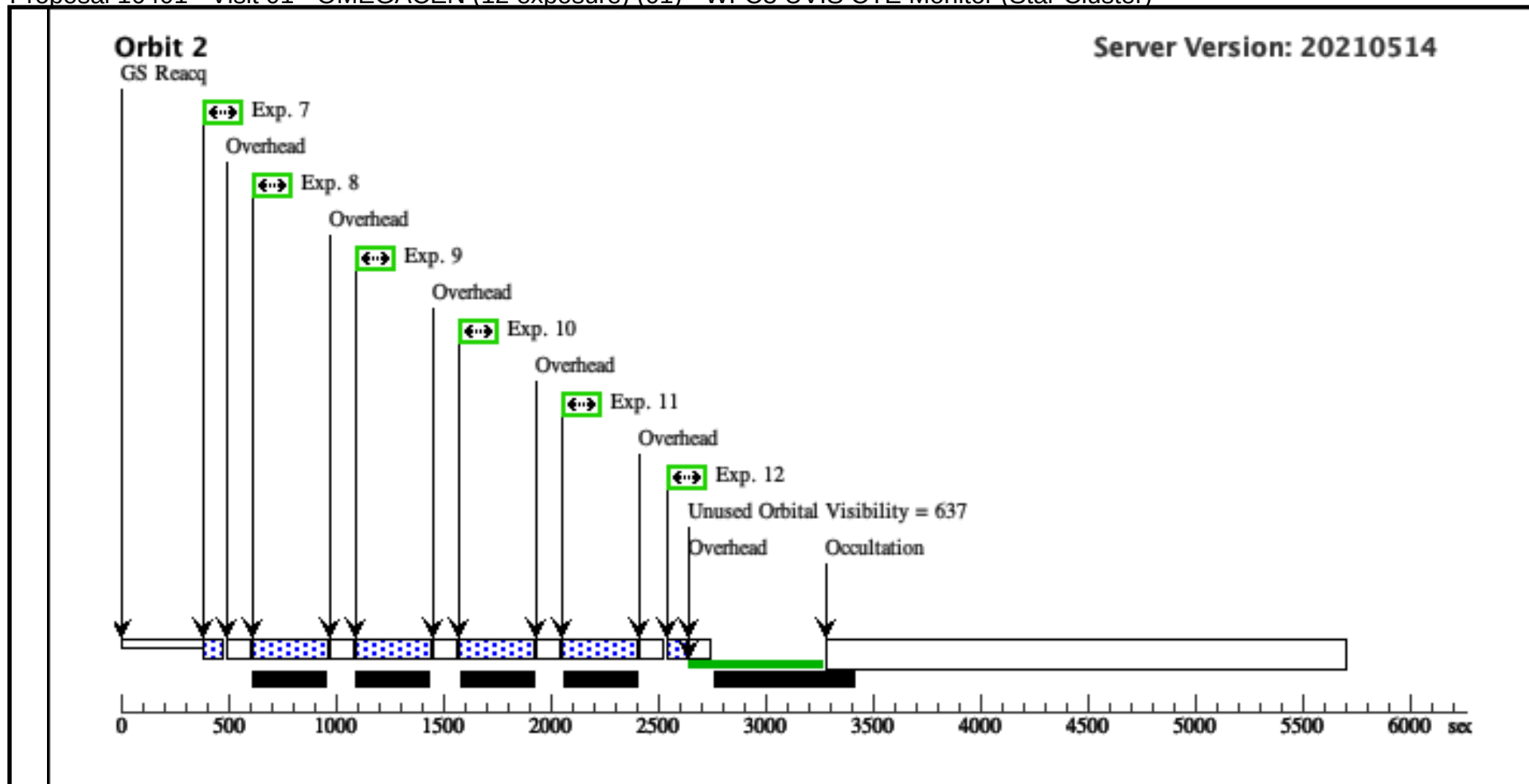
Proposal 16401 - Visit 01 - OMEGACEN (12 exposure) (01) - WFC3 UVIS CTE Monitor (Star Cluster)

Visit	Proposal 16401, Visit 01 - OMEGACEN (12 exposure) (01), completed					Thu Jul 01 21:00:23 GMT 2021
	Diagnostic Status: Warning					
	Scientific Instruments: WFC3/UVIS					
	Special Requirements: BETWEEN 02-NOV-2020 AND 28-FEB-2021					
Comments: USE SAME GUIDE STAR THROUGHOUT VISIT. USE SAME ORIENTATION THROUGHOUT VISIT.						
Diagnostics	(Visit 01 - OMEGACEN (12 exposure) (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE					
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	(Visit 01 - OMEGACEN (12 exposure) (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT					
	(Exposure 1 (Visit 01 - OMEGACEN (12 exposure) (01))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser					
	(Exposure 2 (Visit 01 - OMEGACEN (12 exposure) (01))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser					
	(Exposure 3 (Visit 01 - OMEGACEN (12 exposure) (01))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser					
	(Exposure 5 (Visit 01 - OMEGACEN (12 exposure) (01))) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser					
(Exposure 6 (Visit 01 - OMEGACEN (12 exposure) (01))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
(Exposure 7 (Visit 01 - OMEGACEN (12 exposure) (01))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
(Exposure 8 (Visit 01 - OMEGACEN (12 exposure) (01))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
(Exposure 9 (Visit 01 - OMEGACEN (12 exposure) (01))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
(Exposure 11 (Visit 01 - OMEGACEN (12 exposure) (01))) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser						
(Exposure 12 (Visit 01 - OMEGACEN (12 exposure) (01))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(2)	OMEGACEN	RA: 13 26 46.2800 (201.6928333d) Dec: -47 28 44.60 (-47.47906d) Equinox: J2000		V=16.8	Reference Frame: ICRS
	Comments: Category=STELLAR CLUSTER Description=[GLOBULAR CLUSTER]					

Proposal 16401 - Visit 01 - OMEGACEN (12 exposure) (01) - WFC3 UVIS CTE Monitor (Star Cluster)

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(2) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO			90 Secs (90 Secs)	
									[==>]	[1]
	2		(2) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=4.			348 Secs (348 Secs)	
									[==>]	[1]
	3		(2) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=8.			348 Secs (348 Secs)	
									[==>]	[1]
	4		(2) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=12.			348 Secs (348 Secs)	
									[==>]	[1]
	5		(2) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=17.			348 Secs (348 Secs)	
									[==>]	[1]
	6		(2) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=6.			90 Secs (90 Secs)	
									[==>]	[1]
	7		(2) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=6.	POS TARG 0,81.6		90 Secs (90 Secs)	
									[==>]	[2]
	8		(2) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=4.	POS TARG 0,81.6		348 Secs (348 Secs)	
									[==>]	[2]
	9		(2) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=8.	POS TARG 0,81.6		348 Secs (348 Secs)	
									[==>]	[2]
	10		(2) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=12.	POS TARG 0,81.6		348 Secs (348 Secs)	
									[==>]	[2]
	11		(2) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=17	POS TARG 0,81.6		348 Secs (348 Secs)	
									[==>]	[2]
	12		(2) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO	POS TARG 0,81.6		90 Secs (90 Secs)	
									[==>]	[2]





Proposal 16401 - Visit 02 - NGC 104 (22 exposure) (02) - WFC3 UVIS CTE Monitor (Star Cluster)

Visit	Proposal 16401, Visit 02 - NGC 104 (22 exposure) (02), implementation	Thu Jul 01 21:00:23 GMT 2021
	Diagnostic Status: Warning	
	Scientific Instruments: WFC3/UVIS	
	Special Requirements: BETWEEN 07-JUL-2021:00:00:00 AND 13-SEP-2021:00:00:00	
	Comments: USE SAME GUIDE STAR THROUGHOUT VISIT. USE SAME ORIENTATION THROUGHOUT VISIT.	

Proposal 16401 - Visit 02 - NGC 104 (22 exposure) (02) - WFC3 UVIS CTE Monitor (Star Cluster)

[illegible]

Proposal 16401 - Visit 02 - NGC 104 (22 exposure) (02) - WFC3 UVIS CTE Monitor (Star Cluster)

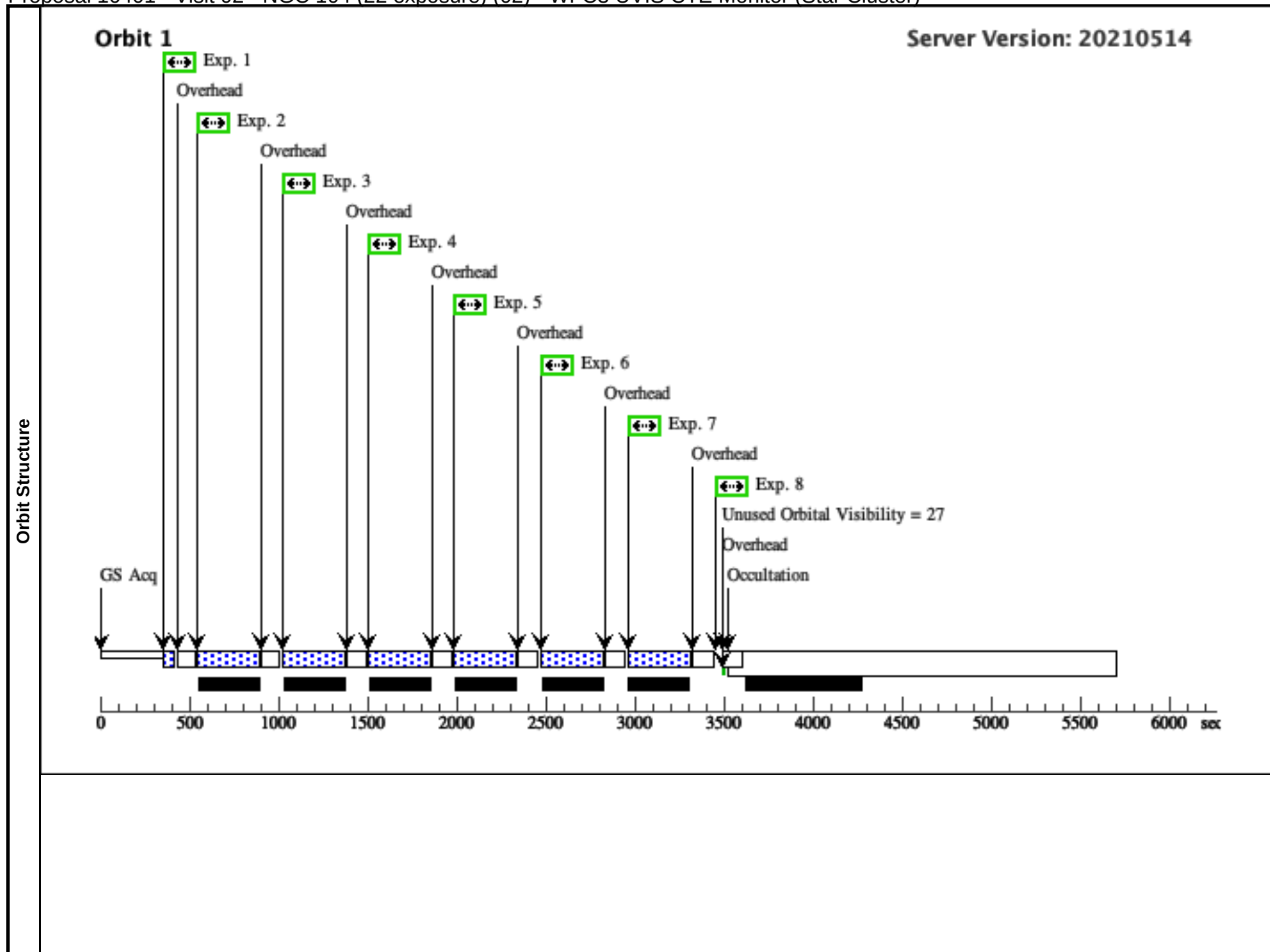
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	NGC-104	RA: 00 22 38.2500 (5.6593750d)	Proper Motion RA: 0.0015731412087106966	V=4.91	Reference Frame: ICRS
		Alt Name1: 47-TUC	Dec: -72 03 54.00 (-72.06500d)	sec of time/yr		
			Equinox: J2000	Proper Motion Dec: -0.001250000013897079		
				arcsec/yr		
				Epoch of Position: 2015.5		
		Comments: Category=STELLAR CLUSTER Description=[GLOBULAR CLUSTER]				

Proposal 16401 - Visit 02 - NGC 104 (22 exposure) (02) - WFC3 UVIS CTE Monitor (Star Cluster)

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO	GS ACQ SCENARI O BASE1BE		30 Secs (30 Secs)	
									[==>]	[1]
	2		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO			348 Secs (348 Secs)	
									[==>]	[1]
	3		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=6.			348 Secs (348 Secs)	
									[==>]	[1]
	4		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=12.	POS TARG 0,0		348 Secs (348 Secs)	
									[==>]	[1]
	5		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=18	POS TARG 0,0		348 Secs (348 Secs)	
									[==>]	[1]
	6		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=24	POS TARG 0,0		348 Secs (348 Secs)	
									[==>]	[1]
	7		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASHCUR=LOW; FLASHEXP=13.	POS TARG 0,0		348 Secs (348 Secs)	
									[==>]	[1]
	8		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=12.	POS TARG 0,0		30 Secs (30 Secs)	
									[==>]	[1]
	9		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASHCUR=LOW; FLASHEXP=21.5			348 Secs (348 Secs)	
									[==>]	[2]
	10		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASHCUR=MEDI UM; FLASHEXP=1.24	POS TARG 0,0		348 Secs (348 Secs)	
									[==>]	[2]
	11		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASHCUR=MEDI UM; FLASHEXP=1.59	POS TARG 0,0		348 Secs (348 Secs)	
									[==>]	[2]
	12		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO	POS TARG 0,81.6		348 Secs (348 Secs)	
									[==>]	[2]
	13		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=6.	POS TARG 0,81.6		348 Secs (348 Secs)	
									[==>]	[2]
	14		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=12.	POS TARG 0,81.6		348 Secs (348 Secs)	
									[==>]	[2]
	15		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=12.	POS TARG 0,81.6		30 Secs (30 Secs)	
									[==>]	[2]
	16		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=18	POS TARG 0,81.6		348 Secs (348 Secs)	
									[==>]	[3]
	17		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=24	POS TARG 0,81.6		348 Secs (348 Secs)	
									[==>]	[3]
	18		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASHCUR=LOW; FLASHEXP=13.	POS TARG 0,81.6		348 Secs (348 Secs)	
									[==>]	[3]

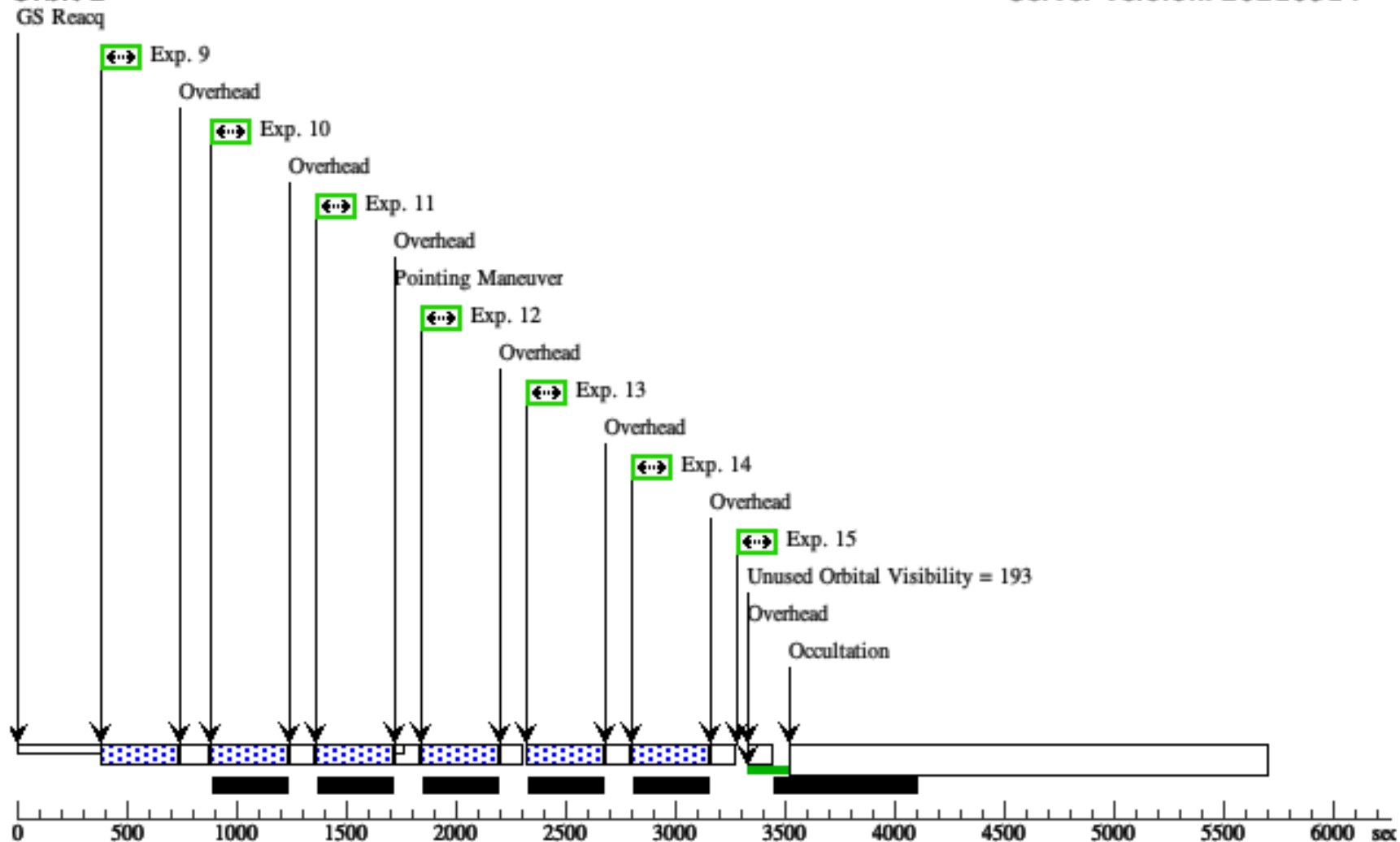
Proposal 16401 - Visit 02 - NGC 104 (22 exposure) (02) - WFC3 UVIS CTE Monitor (Star Cluster)

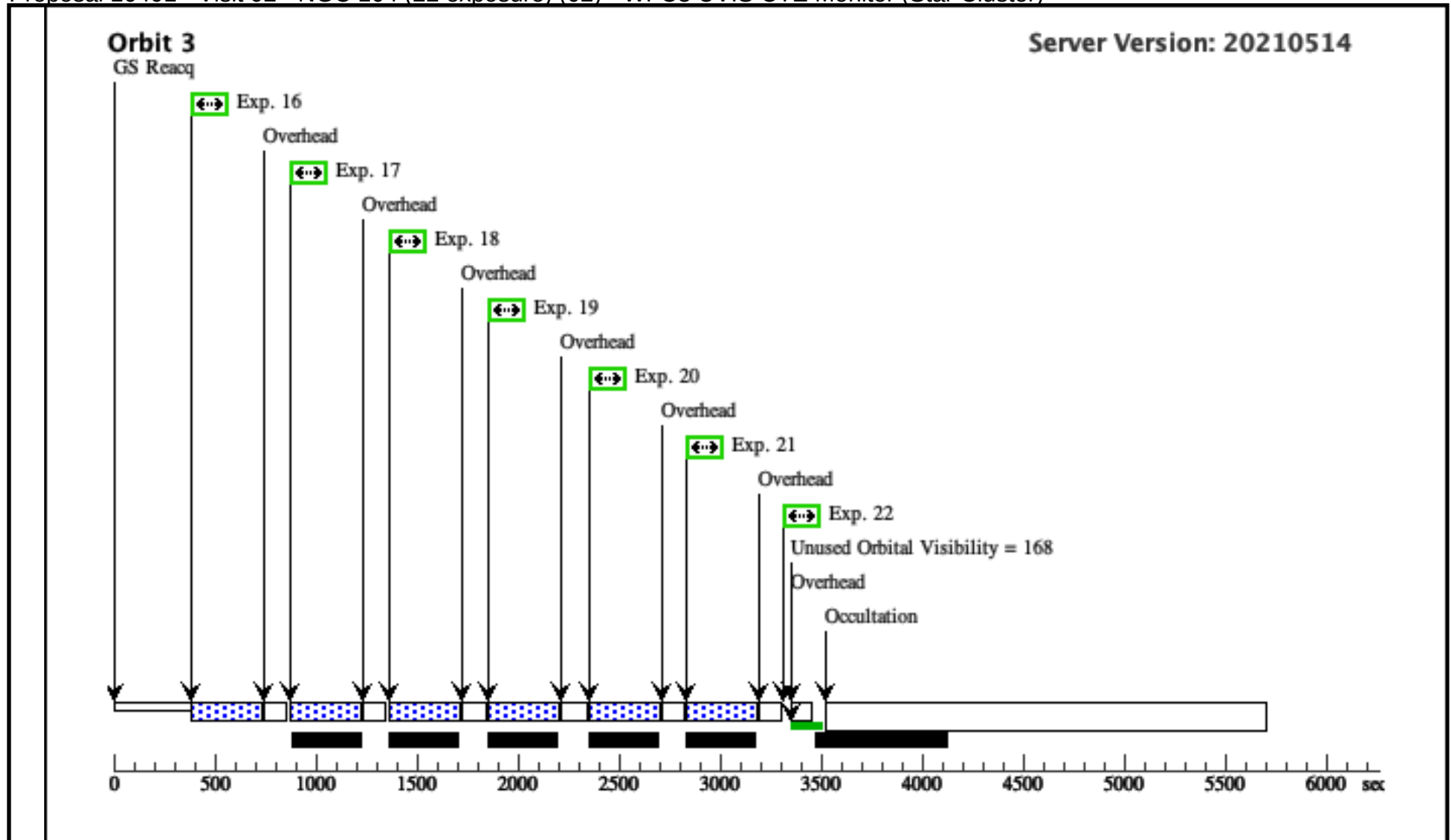
	19	(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; POS TARG 0,81.6 FLASHCUR=LOW; FLASHEXP=21.5	348 Secs (348 Secs) [==>]	[3]
	20	(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; POS TARG 0,81.6 FLASHCUR=MEDI UM; FLASHEXP=1.24	348 Secs (348 Secs) [==>]	[3]
	21	(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; POS TARG 0,81.6 FLASHCUR=MEDI UM; FLASHEXP=1.59	348 Secs (348 Secs) [==>]	[3]
	22	(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO POS TARG 0,81.6	30 Secs (30 Secs) [==>]	[3]



Orbit 2

Server Version: 20210514





Proposal 16401 - Visit 03 - NGC 104 (22 exposure) (03) - WFC3 UVIS CTE Monitor (Star Cluster)

Visit	Proposal 16401, Visit 03 - NGC 104 (22 exposure) (03), scheduling	Thu Jul 01 21:00:23 GMT 2021
	Diagnostic Status: Warning	
	Scientific Instruments: WFC3/UVIS	
	Special Requirements: BETWEEN 04-DEC-2021:00:00:00 AND 16-DEC-2021:00:00:00	
	Comments: USE SAME GUIDE STAR THROUGHOUT VISIT. USE SAME ORIENTATION THROUGHOUT VISIT.	

Proposal 16401 - Visit 03 - NGC 104 (22 exposure) (03) - WFC3 UVIS CTE Monitor (Star Cluster)

[illegible]

Proposal 16401 - Visit 03 - NGC 104 (22 exposure) (03) - WFC3 UVIS CTE Monitor (Star Cluster)

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	NGC-104	RA: 00 22 38.2500 (5.6593750d)	Proper Motion RA: 0.0015731412087106966	V=4.91	Reference Frame: ICRS
		Alt Name1: 47-TUC	Dec: -72 03 54.00 (-72.06500d)	sec of time/yr		
			Equinox: J2000	Proper Motion Dec: -0.001250000013897079		
				arcsec/yr		
				Epoch of Position: 2015.5		
		Comments:				
		Category=STELLAR CLUSTER				
		Description=[GLOBULAR CLUSTER]				

Proposal 16401 - Visit 03 - NGC 104 (22 exposure) (03) - WFC3 UVIS CTE Monitor (Star Cluster)

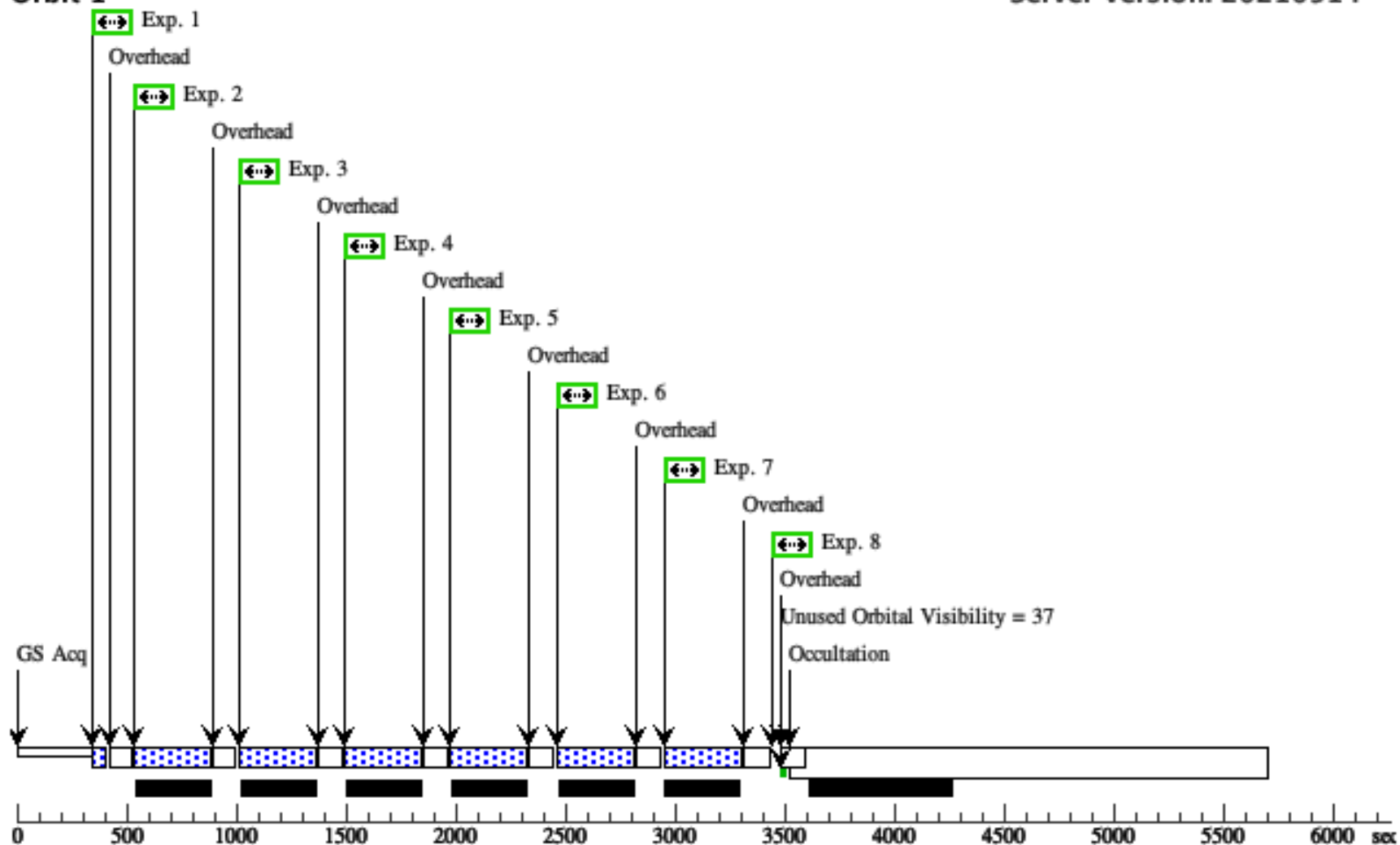
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO	GS ACQ SCENARI O BASE1B3		30 Secs (30 Secs)	
									[==>]	[1]
	2		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO			348 Secs (348 Secs)	
									[==>]	[1]
	3		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=6.			348 Secs (348 Secs)	
									[==>]	[1]
	4		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=12.	POS TARG 0,0		348 Secs (348 Secs)	
									[==>]	[1]
	5		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=18	POS TARG 0,0		348 Secs (348 Secs)	
									[==>]	[1]
	6		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=24	POS TARG 0,0		348 Secs (348 Secs)	
									[==>]	[1]
	7		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASHCUR=LOW; FLASHEXP=13.	POS TARG 0,0		348 Secs (348 Secs)	
									[==>]	[1]
	8		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=12.	POS TARG 0,0		30 Secs (30 Secs)	
									[==>]	[1]
	9		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASHCUR=LOW; FLASHEXP=21.5			348 Secs (348 Secs)	
									[==>]	[2]
	10		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASHCUR=MEDI UM; FLASHEXP=1.24	POS TARG 0,0		348 Secs (348 Secs)	
									[==>]	[2]
	11		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASHCUR=MEDI UM; FLASHEXP=1.59	POS TARG 0,0		348 Secs (348 Secs)	
									[==>]	[2]
	12		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO	POS TARG 0,81.6		348 Secs (348 Secs)	
									[==>]	[2]
	13		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=6.	POS TARG 0,81.6		348 Secs (348 Secs)	
									[==>]	[2]
	14		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=12.	POS TARG 0,81.6		348 Secs (348 Secs)	
									[==>]	[2]
	15		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=12.	POS TARG 0,81.6		30 Secs (30 Secs)	
									[==>]	[2]
	16		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=18	POS TARG 0,81.6		348 Secs (348 Secs)	
									[==>]	[3]
	17		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=24	POS TARG 0,81.6		348 Secs (348 Secs)	
									[==>]	[3]
	18		(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASHCUR=LOW; FLASHEXP=13.	POS TARG 0,81.6		348 Secs (348 Secs)	
									[==>]	[3]

Proposal 16401 - Visit 03 - NGC 104 (22 exposure) (03) - WFC3 UVIS CTE Monitor (Star Cluster)

	19	(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; POS TARG 0,81.6 FLASHCUR=LOW; FLASHEXP=21.5	348 Secs (348 Secs) [==>]	[3]
	20	(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; POS TARG 0,81.6 FLASHCUR=MEDI UM; FLASHEXP=1.24	348 Secs (348 Secs) [==>]	[3]
	21	(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; POS TARG 0,81.6 FLASHCUR=MEDI UM; FLASHEXP=1.59	348 Secs (348 Secs) [==>]	[3]
	22	(1) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO POS TARG 0,81.6	30 Secs (30 Secs) [==>]	[3]

Orbit 1

Server Version: 20210514



Orbit 2

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