

17953 - WFC3 UVIS CTE Monitor (Star Cluster)

Cycle: 33, Proposal Category: CAL/WFC3

(Availability Mode: RESTRICTED)

INVESTIGATORS

Name	*Institution*
Benjamin Kuhn (PI) (Contact)	**Space Telescope Science Institute**
Dr. Sylvia M. Baggett (CoI) (Contact)	Space Telescope Science Institute
Dr. Jay Anderson (CoI) (Contact)	Space Telescope Science Institute

VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) OMEGACEN	WFC3/UVIS	2	09-Sep-2026 13:00:15.0	yes
02	(1) OMEGACEN	WFC3/UVIS	2	09-Sep-2026 13:00:16.0	yes
03	(2) NGC-104	WFC3/UVIS	2	09-Sep-2026 13:00:17.0	yes
53	(2) NGC-104	WFC3/UVIS	2	09-Sep-2026 13:00:17.0	yes
04	(1) OMEGACEN	WFC3/UVIS	2	09-Sep-2026 13:00:18.0	yes

10 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 fluctuates 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 phometry-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 (FLC/DRC).

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 an 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 cycle 28 we have swapped out NGC 6791 for Omega Centauri. Switching to Omega Centauri provides significantly more stars, particularly at the faint end, which improves the CTE measurements.

Each cluster will have long and short exposures taken. NGC 104 short exposures will have 12 e-/pixel post-flash (~12 e- total background)

and Omega Centauri will have 0 and 11 e-/pixel post-flash (~1 and 12 e- total background).
The long exposure Omega Centauri images will be taken with a 10, 15, 23, and 44 e-/pixel
post-flash (20, 30, 40, and 60 e- total background). NGC 104 long
exposures will use post-flash levels: 0, 18, 24, 33, and 55 e-/pixel. (1, 20, 30,
40, and 60 e- total background). 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 scheduling for this program has evolved over the years, but we continue to set unique
BETWEENs for each of the four visits (which started in cycle 30 PID 17009). In the past,
before Cycle 30, we had observed two targets roughly twice a year. The motivation was to
test whether or not the stellar density affected the CTE measurement due to shielding.
Now that we have seen that shielding does not have a measurable effect on the CTE measurement
(WFC3 ISR 2021-09), we observe Omega Cen and NGC 104 at four unique epochs throughout
the cycle with at least ~2 months in between each visit. We elect to observe Omega Cen three
times and NGC 104 only once. The motivation for this is the same as described above for
replacing NGC 6791. Omega Cen has a much more favorable stellar density that provides
~1000's of stars per flux bin rather than ~100's. The increase in the number of sources (especially
at the faint and bright ends) greatly reduced the uncertainty in the measurement.

In this Cycle 33 proposal we are trying to observe:

Omega Cen - Visit01 ~ Jan 2026

Omega Cen - Visit02 ~ Mar 2026

NGC 104 - Visit03 ~ Sep 2026

Omega Cen - Visit04 ~ Dec 2026

------ 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 17-32 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-basedUVIS CTE correction algorithm developed by J. Anderson.

Proposal 17953 - Visit 01 - OMEGACEN (12 exposures) (01) - WFC3 UVIS CTE Monitor (Star Cluster)

Visit

Proposal 17953, Visit 01 - OMEGACEN (12 exposures) (01), completed Wed Sep 09 17:00:19 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: SCHED 70%; BETWEEN 24-DEC-2025:00:00:00 AND 20-JAN-2026:00:00:00

Comments: USE SAME GUIDE STAR THROUGHOUT VISIT.
USE SAME ORIENTATION THROUGHOUT VISIT.

Diagnostics

(Visit 01 - OMEGACEN (12 exposures) (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 01 - OMEGACEN (12 exposures) (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 01 - OMEGACEN (12 exposures) (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 01 - OMEGACEN (12 exposures) (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 01 - OMEGACEN (12 exposures) (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 01 - OMEGACEN (12 exposures) (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 01 - OMEGACEN (12 exposures) (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT
(Visit 01 - OMEGACEN (12 exposures) (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT
(Visit 01 - OMEGACEN (12 exposures) (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT
(Visit 01 - OMEGACEN (12 exposures) (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT
(Visit 01 - OMEGACEN (12 exposures) (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT
(Visit 01 - OMEGACEN (12 exposures) (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT
(Exposure 1 - 30s BKG 1 (01.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 2 - 348s BKG 20 (01.002)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 3 - 348s BKG 25 (01.003)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 5 - 348s BKG 56 (01.005)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 6 - 30s BKG 12 (01.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 7 - 30s BKG 1 (01.007)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 8 - 348s BKG 20 (01.008)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 9 - 348s BKG 25 (01.009)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 11 - 348s BKG 56 (01.011)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 12 - 30s BKG 12 (01.012)) 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
(1)	OMEGACEN	RA: 13 26 46.2800 (201.6928333d) Dec: -47 28 44.60 (-47.47906d) Equinox: J2000		V=16.8	Reference Frame: ICRS

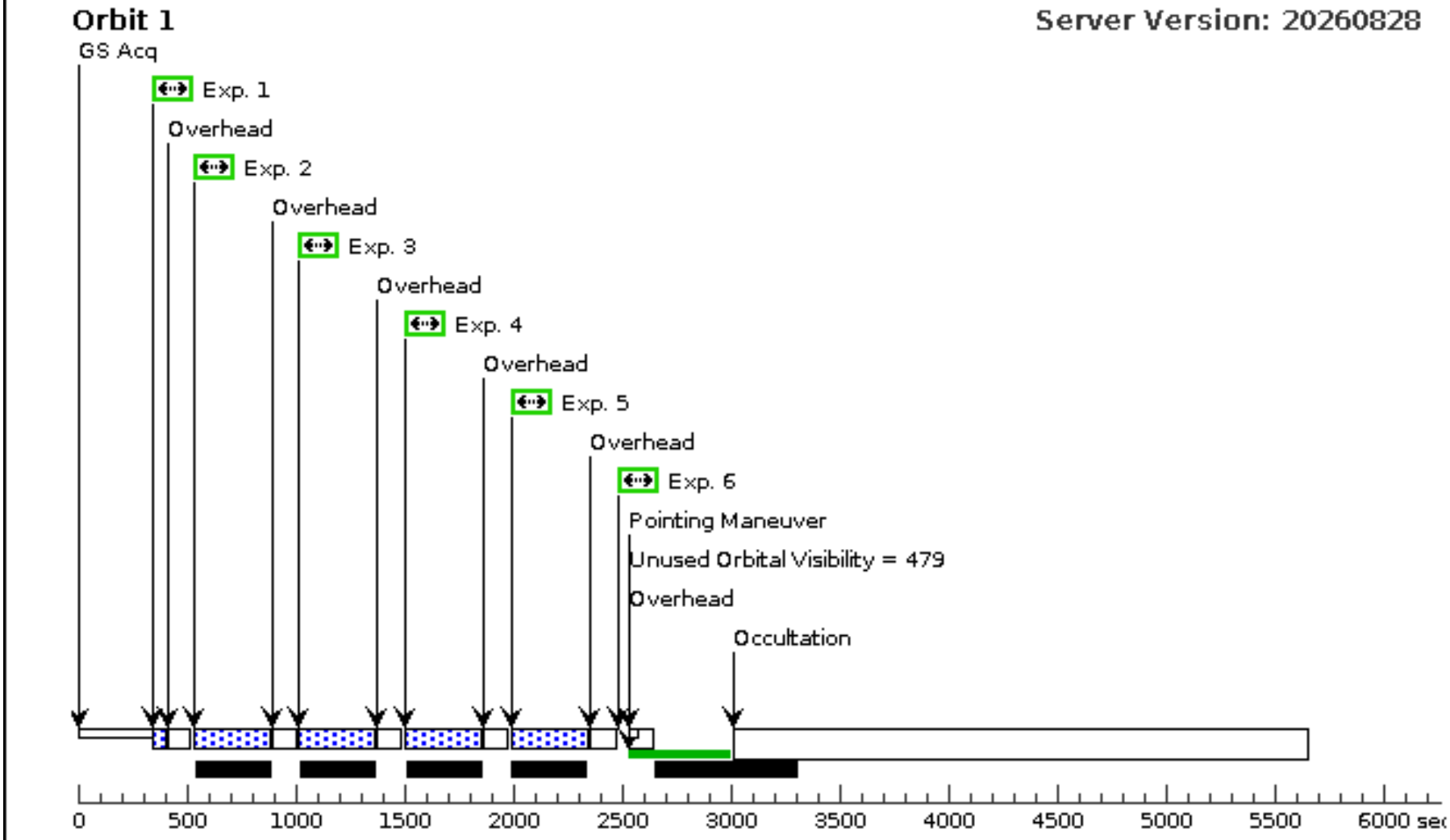
Comments:
Category=STELLAR CLUSTER
Description=[GLOBULAR CLUSTER]

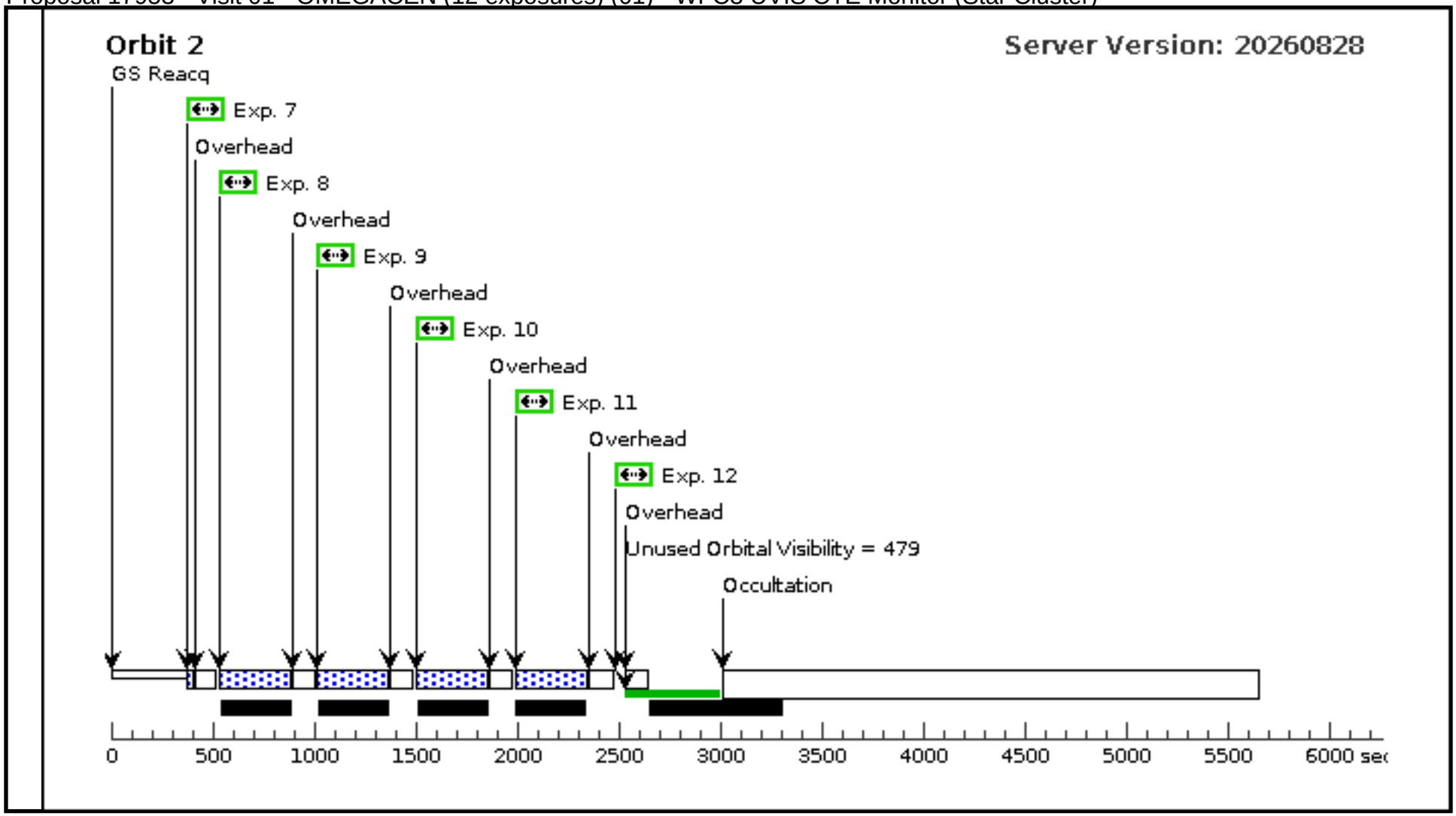
Proposal 17953 - Visit 01 - OMEGACEN (12 exposures) (01) - WFC3 UVIS CTE Monitor (Star Cluster)

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Exposure 1 - 30s BKG 1	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO	GS ACQ SCENARIO BASE1O3		30 Secs (30 Secs) *[==>]*	 ***[1]***
2	Exposure 2 - 348s BKG 20	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=10			348 Secs (348 Secs) *[==>]*	 ***[1]***
3	Exposure 3 - 348s BKG 25	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=15			348 Secs (348 Secs) *[==>]*	 ***[1]***
4	Exposure 4- 348s BKG 34	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=23			348 Secs (348 Secs) *[==>]*	 ***[1]***
5	Exposure 5 - 348s BKG 56	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASHCUR=LOW; FLASHEXP=17.24			348 Secs (348 Secs) *[==>]*	 ***[1]***
6	Exposure 6 - 30s BKG 12	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=11			30 Secs (30 Secs) *[==>]*	 ***[1]***
7	Exposure 7 - 30s BKG 1	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO	POS TARG 0,81.6		30 Secs (30 Secs) *[==>]*	 ***[2]***
8	Exposure 8 - 348s BKG 20	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=10	POS TARG 0,81.6		348 Secs (348 Secs) *[==>]*	 ***[2]***
9	Exposure 9 - 348s BKG 25	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=15	POS TARG 0,81.6		348 Secs (348 Secs) *[==>]*	 ***[2]***
10	Exposure 10 - 348s BKG 34	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=23	POS TARG 0,81.6		348 Secs (348 Secs) *[==>]*	 ***[2]***
11	Exposure 11 - 348s BKG 56	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASHCUR=LOW; FLASHEXP=17.24	POS TARG 0,81.6		348 Secs (348 Secs) *[==>]*	 ***[2]***
12	Exposure 12 - 30s BKG 12	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=11	POS TARG 0,81.6		30 Secs (30 Secs) *[==>]*	 ***[2]***

Orbit Structure




Orbit 2
Server Version: 20260828
GS Reacq
Exp. 7
Overhead
Exp. 8
Overhead
Exp. 9
Overhead
Exp. 10
Overhead
Exp. 11
Overhead
Exp. 12
Overhead
Unused Orbital Visibility = 479
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Proposal 17953 - Visit 02 - OMEGACEN (12 exposures) (02) - WFC3 UVIS CTE Monitor (Star Cluster)

Visit

Proposal 17953, Visit 02 - OMEGACEN (12 exposures) (02), completed Wed Sep 09 17:00:19 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: SCHED 70%; BETWEEN 02-MAR-2026:00:00:00 AND 29-MAR-2026:00:00:00

Comments: USE SAME GUIDE STAR THROUGHOUT VISIT.
USE SAME ORIENTATION THROUGHOUT VISIT.

Diagnostics

(Visit 02 - OMEGACEN (12 exposures) (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 02 - OMEGACEN (12 exposures) (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 02 - OMEGACEN (12 exposures) (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 02 - OMEGACEN (12 exposures) (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 02 - OMEGACEN (12 exposures) (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 02 - OMEGACEN (12 exposures) (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 02 - OMEGACEN (12 exposures) (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT
(Visit 02 - OMEGACEN (12 exposures) (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT
(Visit 02 - OMEGACEN (12 exposures) (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT
(Visit 02 - OMEGACEN (12 exposures) (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT
(Visit 02 - OMEGACEN (12 exposures) (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT
(Visit 02 - OMEGACEN (12 exposures) (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT
(Exposure 1 - 30s BKG 1 (02.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 2 - 348s BKG 20 (02.002)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 3 - 348s BKG 25 (02.003)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 5 - 348s BKG 56 (02.005)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 6 - 30s BKG 12 (02.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 7 - 30s BKG 1 (02.007)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 8 - 348s BKG 20 (02.008)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 9 - 348s BKG 25 (02.009)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 11 - 348s BKG 56 (02.011)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 12 - 30s BKG 12 (02.012)) 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
(1)	OMEGACEN	RA: 13 26 46.2800 (201.6928333d) Dec: -47 28 44.60 (-47.47906d) Equinox: J2000		V=16.8	Reference Frame: ICRS

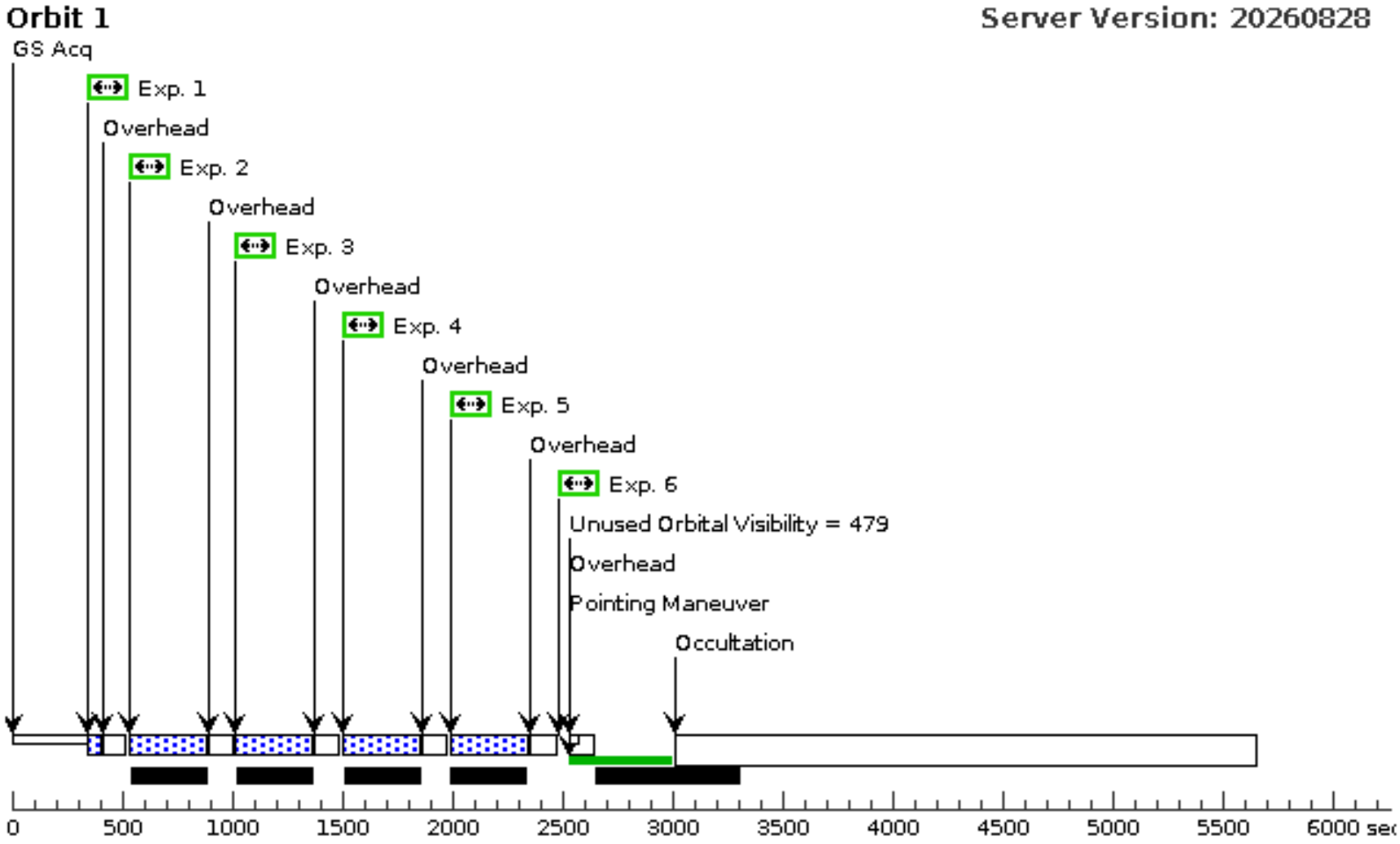
Comments:
Category=STELLAR CLUSTER
Description=[GLOBULAR CLUSTER]

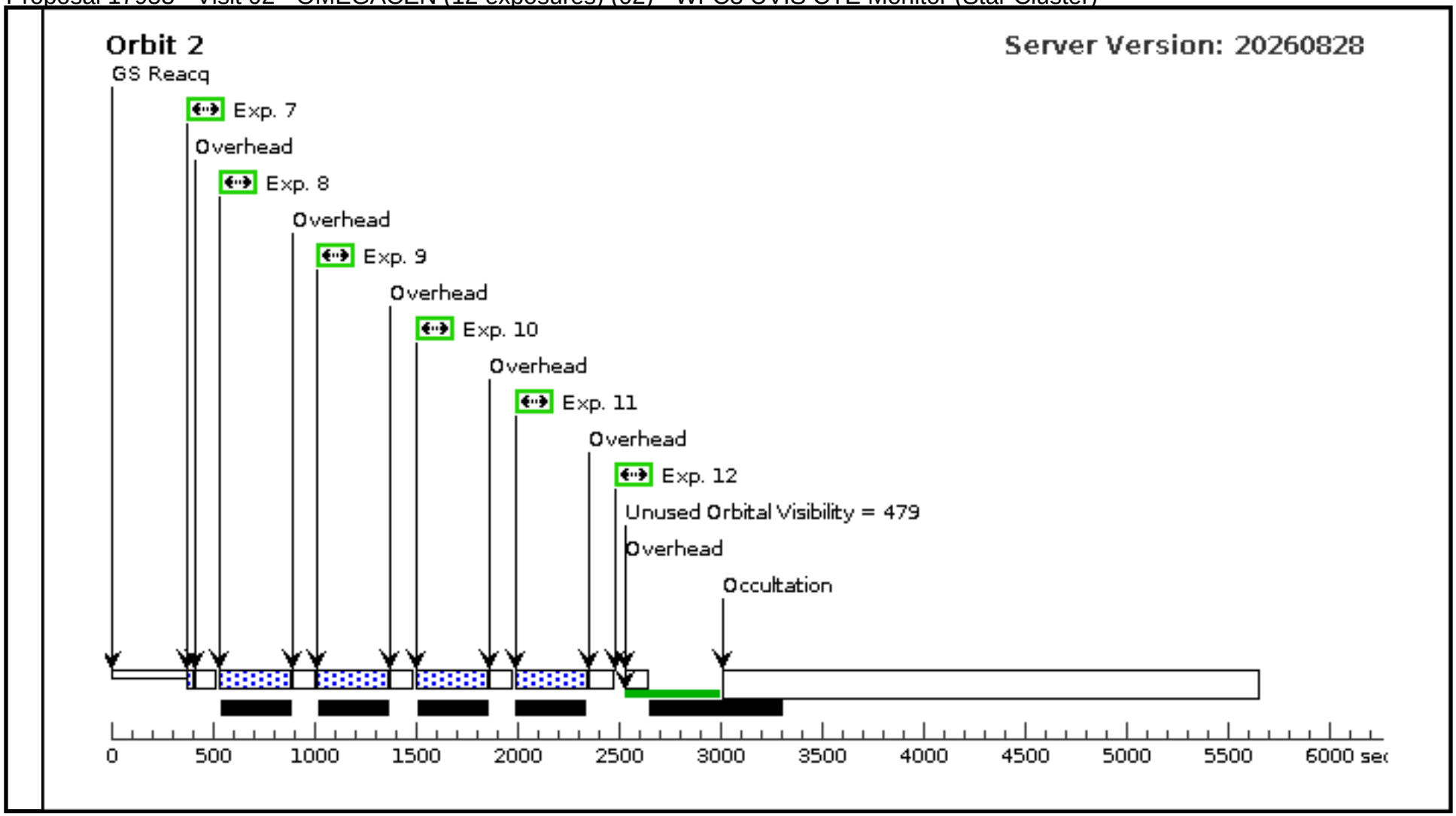
Proposal 17953 - Visit 02 - OMEGACEN (12 exposures) (02) - WFC3 UVIS CTE Monitor (Star Cluster)

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Exposure 1 - 30s BKG 1	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO	GS ACQ SCENARIO BASE1O3		30 Secs (30 Secs) *[==>]*	 ***[1]***
2	Exposure 2 - 348s BKG 20	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=10			348 Secs (348 Secs) *[==>]*	 ***[1]***
3	Exposure 3 - 348s BKG 25	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=15			348 Secs (348 Secs) *[==>]*	 ***[1]***
4	Exposure 4- 348s BKG 34	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=23			348 Secs (348 Secs) *[==>]*	 ***[1]***
5	Exposure 5 - 348s BKG 56	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASHCUR=LOW; FLASHEXP=17.24			348 Secs (348 Secs) *[==>]*	 ***[1]***
6	Exposure 6 - 30s BKG 12	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=11			30 Secs (30 Secs) *[==>]*	 ***[1]***
7	Exposure 7 - 30s BKG 1	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO	POS TARG 0,81.6		30 Secs (30 Secs) *[==>]*	 ***[2]***
8	Exposure 8 - 348s BKG 20	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=10	POS TARG 0,81.6		348 Secs (348 Secs) *[==>]*	 ***[2]***
9	Exposure 9 - 348s BKG 25	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=15	POS TARG 0,81.6		348 Secs (348 Secs) *[==>]*	 ***[2]***
10	Exposure 10 - 348s BKG 34	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=23	POS TARG 0,81.6		348 Secs (348 Secs) *[==>]*	 ***[2]***
11	Exposure 11 - 348s BKG 56	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASHCUR=LOW; FLASHEXP=17.24	POS TARG 0,81.6		348 Secs (348 Secs) *[==>]*	 ***[2]***
12	Exposure 12 - 30s BKG 12	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=11	POS TARG 0,81.6		30 Secs (30 Secs) *[==>]*	 ***[2]***

Orbit Structure




Orbit 2
Server Version: 20260828
GS Reacq
Exp. 7
Overhead
Exp. 8
Overhead
Exp. 9
Overhead
Exp. 10
Overhead
Exp. 11
Overhead
Exp. 12
Unused Orbital Visibility = 479
Overhead
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17953, Visit 03 - NGC 104 (12 exposures) (03), failed Wed Sep 09 17:00:19 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: SCHED 70%; BETWEEN 31-AUG-2026:00:00:00 AND 30-OCT-2026:00:00:00

Comments: USE SAME GUIDE STAR THROUGHOUT VISIT.
USE SAME ORIENTATION THROUGHOUT VISIT.

Diagnostics

(Visit 03 - NGC 104 (12 exposures) (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 03 - NGC 104 (12 exposures) (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 03 - NGC 104 (12 exposures) (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 03 - NGC 104 (12 exposures) (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 03 - NGC 104 (12 exposures) (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 03 - NGC 104 (12 exposures) (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 03 - NGC 104 (12 exposures) (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT
(Visit 03 - NGC 104 (12 exposures) (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT
(Visit 03 - NGC 104 (12 exposures) (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT
(Visit 03 - NGC 104 (12 exposures) (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT
(Visit 03 - NGC 104 (12 exposures) (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT
(Visit 03 - NGC 104 (12 exposures) (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT
(Exposure 1 - 30s BKG 12 (03.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 2- 348s BKG 1 (03.002)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 4 - 348s BKG 25 (03.004)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser
(Exposure 5 - 348s BKG 34 (03.005)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 6 - 348s BKG 56 (03.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 7 - 348s BKG 1 (03.007)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 9 - 348s BKG 25 (03.009)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser
(Exposure 10 - 348s BKG 34 (03.010)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 11 - 348s BKG 56 (03.011)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 12 - 30s BKG 12 (03.012)) 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)	NGC-104 Alt Name1: 47-TUC	RA: 00 22 38.2500 (5.6593750d) Dec: -72 03 54.00 (-72.06500d) Equinox: J2000	Proper Motion RA: 0.0015731412087106966 sec of time/yr Proper Motion Dec: -0.001250000013897079 arcsec/yr Epoch of Position: 2015.5	V=4.91	Reference Frame: ICRS

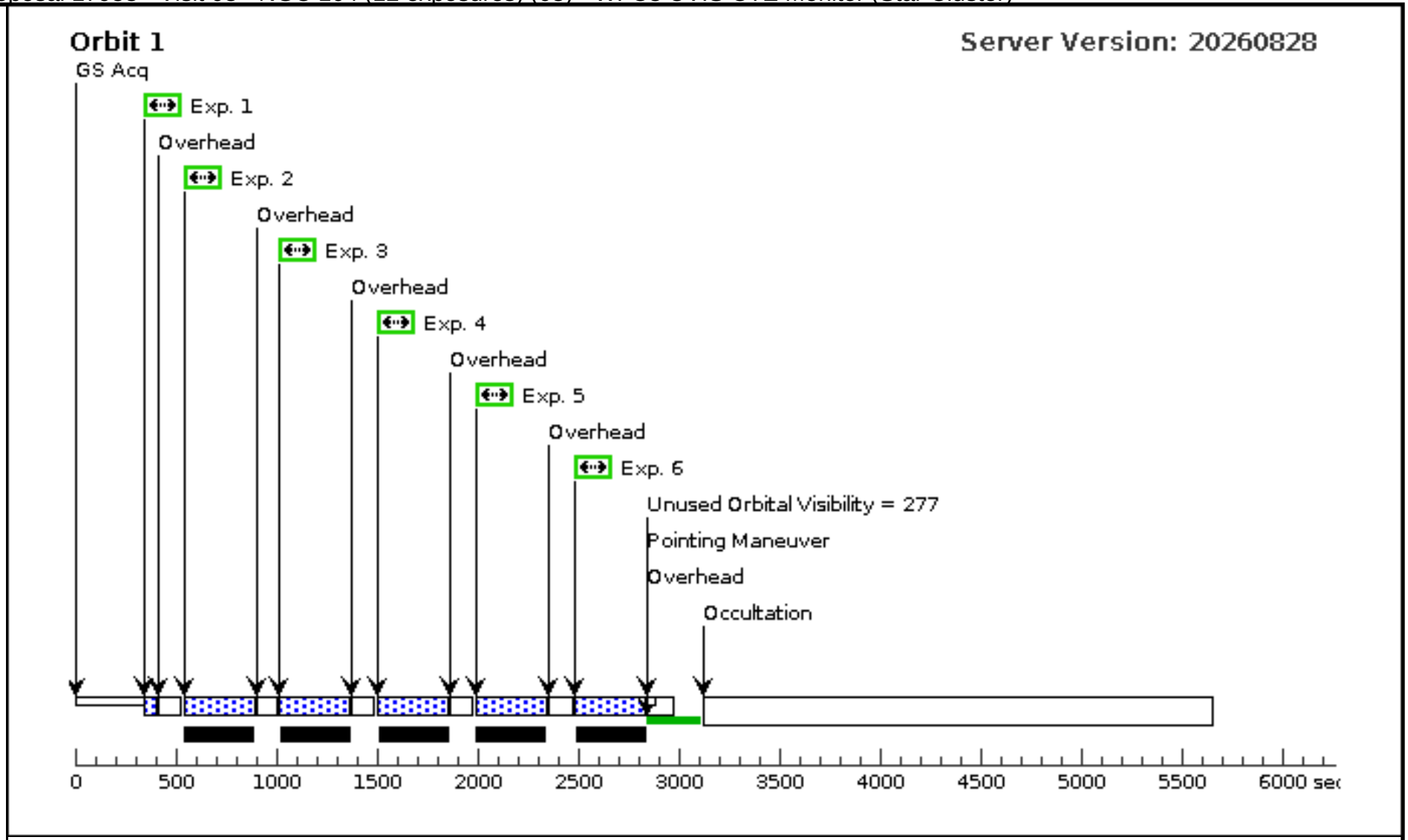
Comments:
Category=STELLAR CLUSTER
Description=[GLOBULAR CLUSTER]

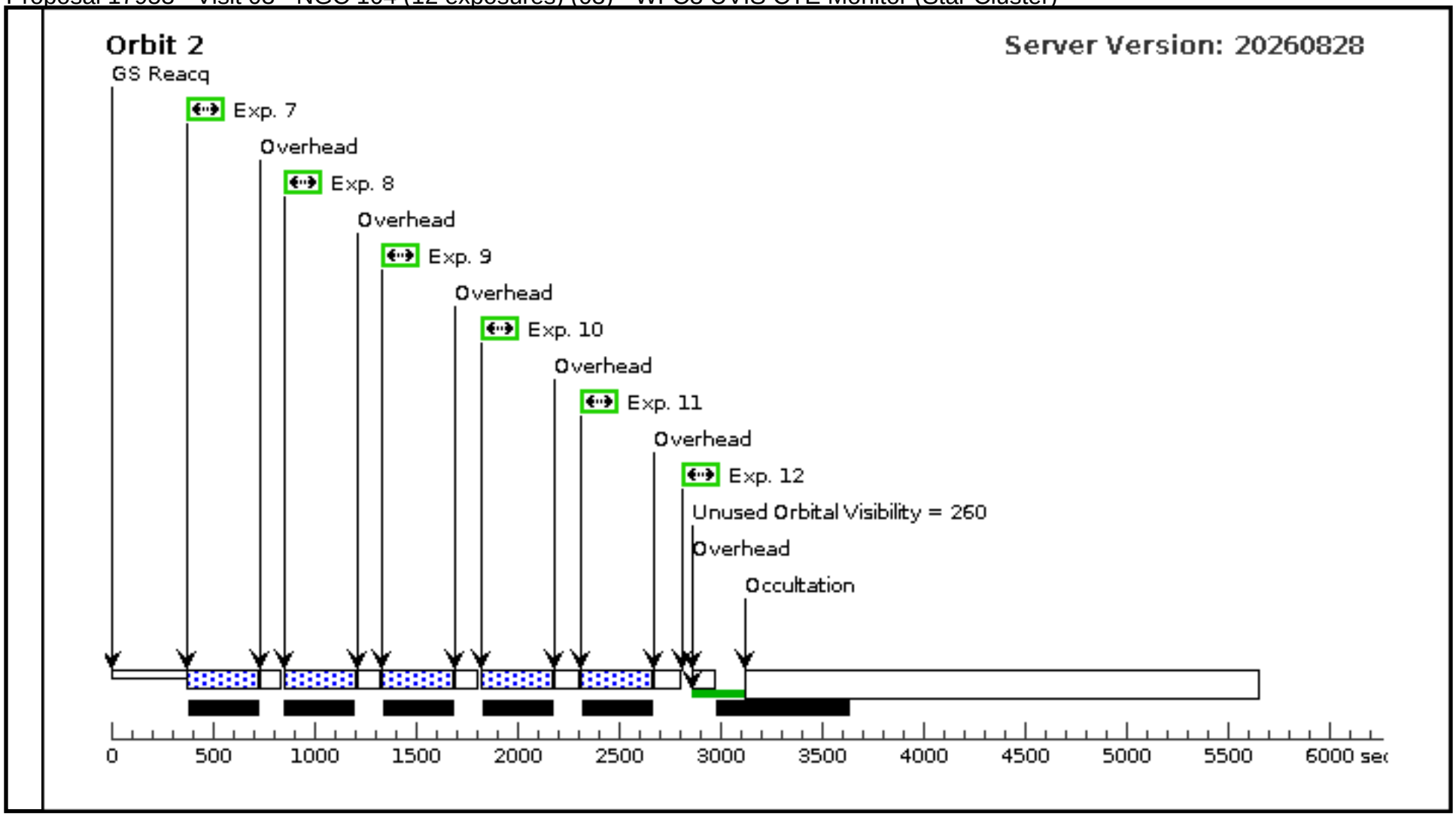
Proposal 17953 - Visit 03 - NGC 104 (12 exposures) (03) - WFC3 UVIS CTE Monitor (Star Cluster)

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Exposure 1 - 30s BKG 12	(2) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=12.	GS ACQ SCENARIO BASE1O3		30 Secs (30 Secs) *[==>]*	 ***[1]***
2	Exposure 2- 348s BKG 1	(2) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO	POS TARG 0,0		348 Secs (348 Secs) *[==>]*	 ***[1]***
3	Exposure 3 - 348s BKG 20	(2) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=18	POS TARG 0,0		348 Secs (348 Secs) *[==>]*	 ***[1]***
4	Exposure 4 - 348s BKG 25	(2) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=24	POS TARG 0,0		348 Secs (348 Secs) *[==>]*	 ***[1]***
5	Exposure 5 - 348s BKG 34	(2) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASHCUR=LOW; FLASHEXP=13.	POS TARG 0,0		348 Secs (348 Secs) *[==>]*	 ***[1]***
6	Exposure 6 - 348s BKG 56	(2) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASHCUR=LOW; FLASHEXP=21.5	POS TARG 0,0		348 Secs (348 Secs) *[==>]*	 ***[1]***
7	Exposure 7 - 348s BKG 1	(2) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO	POS TARG 0,81.6		348 Secs (348 Secs) *[==>]*	 ***[2]***
8	Exposure 8 - 348s BKG 20	(2) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=18	POS TARG 0,81.6		348 Secs (348 Secs) *[==>]*	 ***[2]***
9	Exposure 9 - 348s BKG 25	(2) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=24	POS TARG 0,81.6		348 Secs (348 Secs) *[==>]*	 ***[2]***
10	Exposure 10 - 348s BKG 34	(2) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASHCUR=LOW; FLASHEXP=13.	POS TARG 0,81.6		348 Secs (348 Secs) *[==>]*	 ***[2]***
11	Exposure 11 - 348s BKG 56	(2) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASHCUR=LOW; FLASHEXP=21.5	POS TARG 0,81.6		348 Secs (348 Secs) *[==>]*	 ***[2]***
12	Exposure 12 - 30s BKG 12	(2) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=12.	POS TARG 0,81.6		30 Secs (30 Secs) *[==>]*	 ***[2]***

Orbit Structure




Orbit 2
Server Version: 20260828
GS Reacq
Exp. 7
Overhead
Exp. 8
Overhead
Exp. 9
Overhead
Exp. 10
Overhead
Exp. 11
Overhead
Exp. 12
Unused Orbital Visibility = 260
Overhead
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17953, Visit 53 - NGC 104 (12 exposures) (53), implementation Wed Sep 09 17:00:19 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: SCHED 70%; BETWEEN 31-AUG-2026:00:00:00 AND 30-OCT-2026:00:00:00

Comments: USE SAME GUIDE STAR THROUGHOUT VISIT.
USE SAME ORIENTATION THROUGHOUT VISIT.

Diagnostics

(Visit 53 - NGC 104 (12 exposures) (53)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 53 - NGC 104 (12 exposures) (53)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 53 - NGC 104 (12 exposures) (53)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 53 - NGC 104 (12 exposures) (53)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 53 - NGC 104 (12 exposures) (53)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 53 - NGC 104 (12 exposures) (53)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 53 - NGC 104 (12 exposures) (53)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT
(Visit 53 - NGC 104 (12 exposures) (53)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT
(Visit 53 - NGC 104 (12 exposures) (53)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT
(Visit 53 - NGC 104 (12 exposures) (53)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT
(Visit 53 - NGC 104 (12 exposures) (53)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT
(Visit 53 - NGC 104 (12 exposures) (53)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT
(Exposure 1 - 30s BKG 12 (53.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 2- 348s BKG 1 (53.002)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 4 - 348s BKG 25 (53.004)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser
(Exposure 5 - 348s BKG 34 (53.005)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 6 - 348s BKG 56 (53.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 7 - 348s BKG 1 (53.007)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 9 - 348s BKG 25 (53.009)) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser
(Exposure 10 - 348s BKG 34 (53.010)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 11 - 348s BKG 56 (53.011)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 12 - 30s BKG 12 (53.012)) 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)	NGC-104 Alt Name1: 47-TUC	RA: 00 22 38.2500 (5.6593750d) Dec: -72 03 54.00 (-72.06500d) Equinox: J2000	Proper Motion RA: 0.0015731412087106966 sec of time/yr Proper Motion Dec: -0.001250000013897079 arcsec/yr Epoch of Position: 2015.5	V=4.91	Reference Frame: ICRS

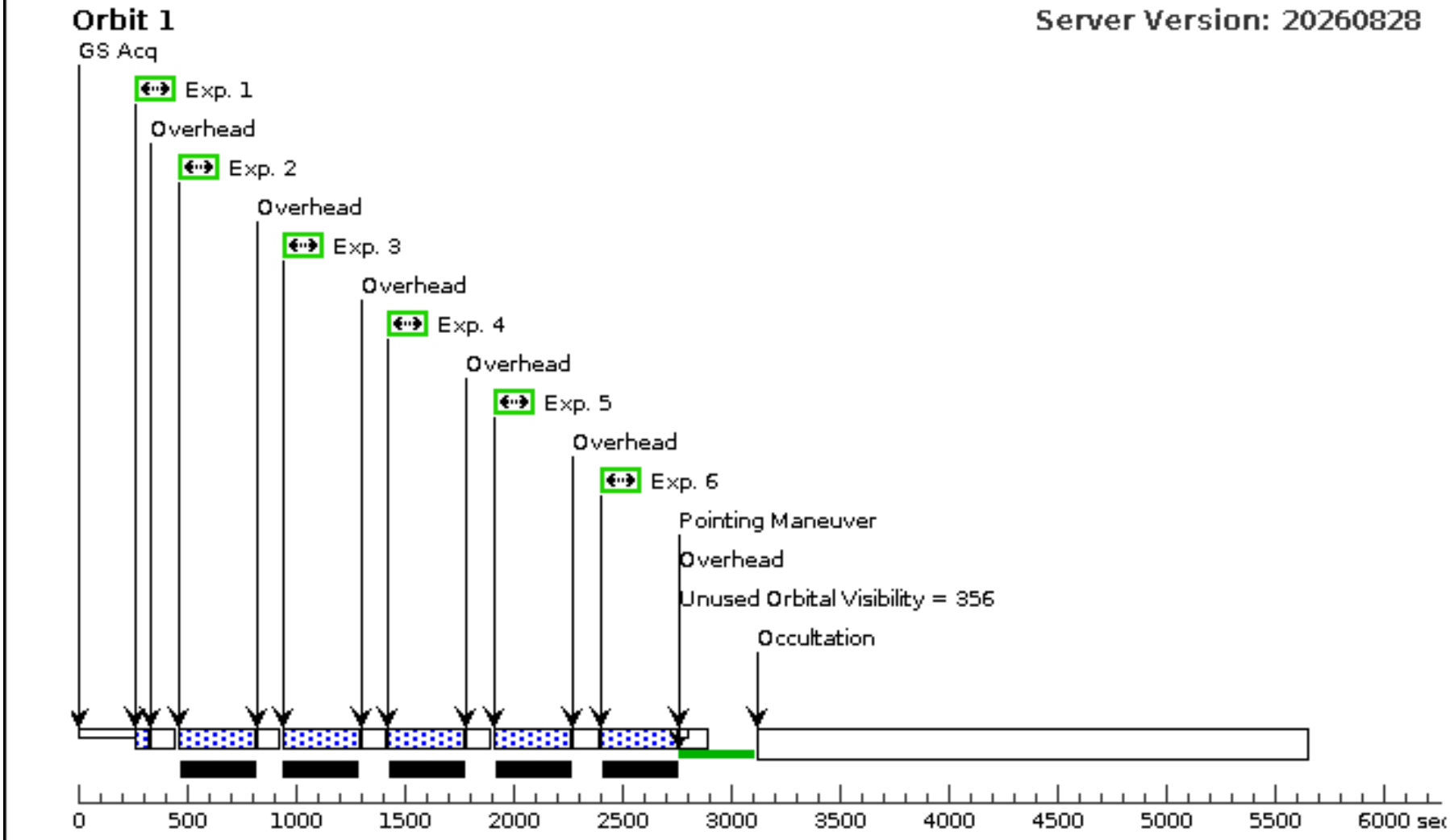
Comments:
Category=STELLAR CLUSTER
Description=[GLOBULAR CLUSTER]

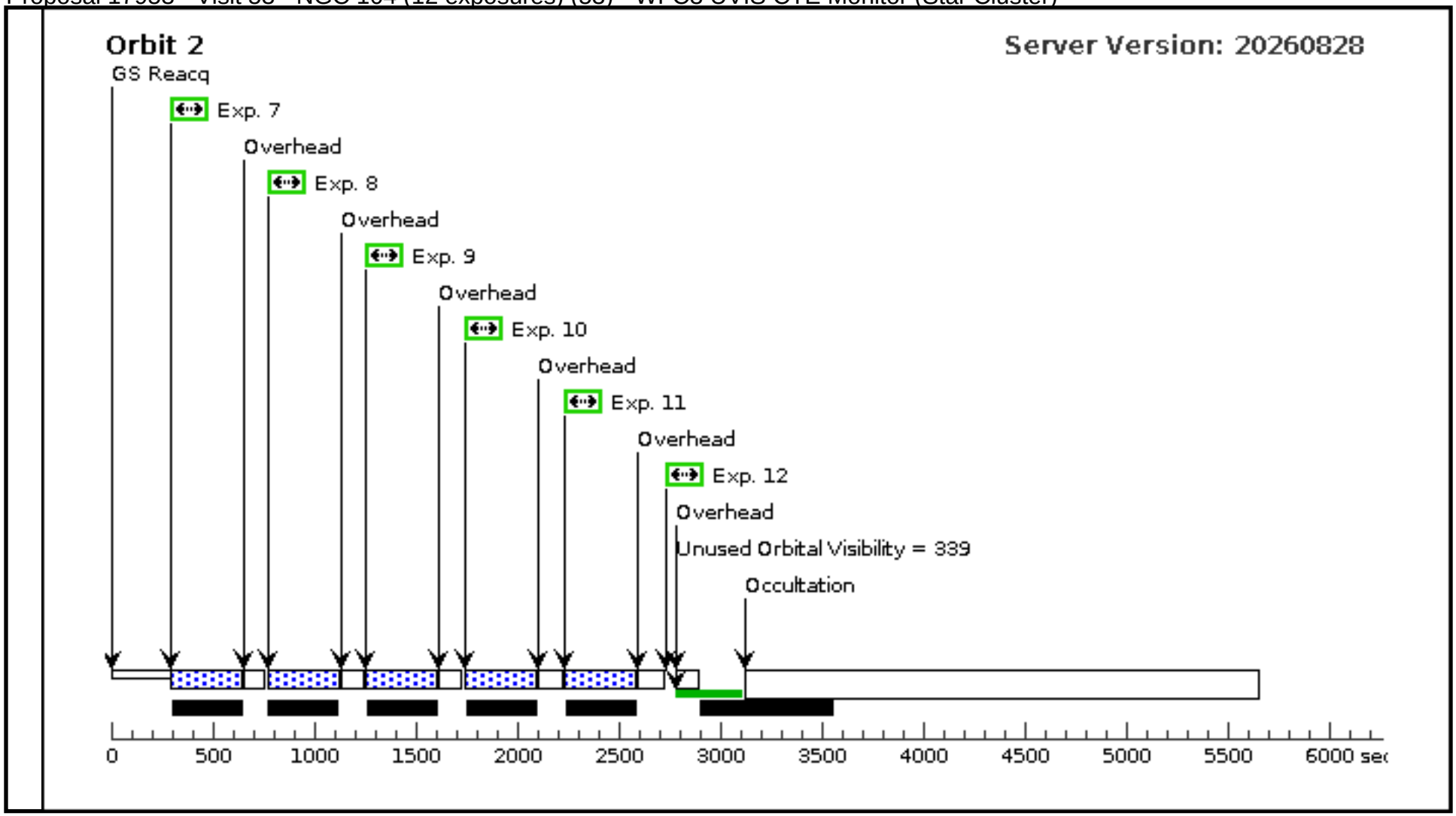
Proposal 17953 - Visit 53 - NGC 104 (12 exposures) (53) - WFC3 UVIS CTE Monitor (Star Cluster)

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Exposure 1 - 30s BKG 12	(2) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=12.	GS ACQ SCENARIO ONEB1O3		30 Secs (30 Secs) *[==>]*	 ***[1]***
2	Exposure 2- 348s BKG 1	(2) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO	POS TARG 0,0		348 Secs (348 Secs) *[==>]*	 ***[1]***
3	Exposure 3 - 348s BKG 20	(2) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=18	POS TARG 0,0		348 Secs (348 Secs) *[==>]*	 ***[1]***
4	Exposure 4 - 348s BKG 25	(2) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=24	POS TARG 0,0		348 Secs (348 Secs) *[==>]*	 ***[1]***
5	Exposure 5 - 348s BKG 34	(2) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASHCUR=LOW; FLASHEXP=13.	POS TARG 0,0		348 Secs (348 Secs) *[==>]*	 ***[1]***
6	Exposure 6 - 348s BKG 56	(2) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASHCUR=LOW; FLASHEXP=21.5	POS TARG 0,0		348 Secs (348 Secs) *[==>]*	 ***[1]***
7	Exposure 7 - 348s BKG 1	(2) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO	POS TARG 0,81.6		348 Secs (348 Secs) *[==>]*	 ***[2]***
8	Exposure 8 - 348s BKG 20	(2) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=18	POS TARG 0,81.6		348 Secs (348 Secs) *[==>]*	 ***[2]***
9	Exposure 9 - 348s BKG 25	(2) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=24	POS TARG 0,81.6		348 Secs (348 Secs) *[==>]*	 ***[2]***
10	Exposure 10 - 348s BKG 34	(2) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASHCUR=LOW; FLASHEXP=13.	POS TARG 0,81.6		348 Secs (348 Secs) *[==>]*	 ***[2]***
11	Exposure 11 - 348s BKG 56	(2) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASHCUR=LOW; FLASHEXP=21.5	POS TARG 0,81.6		348 Secs (348 Secs) *[==>]*	 ***[2]***
12	Exposure 12 - 30s BKG 12	(2) NGC-104	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=12.	POS TARG 0,81.6		30 Secs (30 Secs) *[==>]*	 ***[2]***

Orbit Structure




Orbit 2
Server Version: 20260828
GS Reacq
Exp. 7
Overhead
Exp. 8
Overhead
Exp. 9
Overhead
Exp. 10
Overhead
Exp. 11
Overhead
Exp. 12
Overhead
Unused Orbital Visibility = 339
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17953, Visit 04 - OMEGACEN (12 exposures) (04), scheduling Wed Sep 09 17:00:19 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: SCHED 70%; BETWEEN 25-DEC-2026:00:00:00 AND 15-JAN-2027:00:00:00

Comments: USE SAME GUIDE STAR THROUGHOUT VISIT.
USE SAME ORIENTATION THROUGHOUT VISIT.

Diagnostics

(Visit 04 - OMEGACEN (12 exposures) (04)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 04 - OMEGACEN (12 exposures) (04)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 04 - OMEGACEN (12 exposures) (04)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 04 - OMEGACEN (12 exposures) (04)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 04 - OMEGACEN (12 exposures) (04)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 04 - OMEGACEN (12 exposures) (04)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE
(Visit 04 - OMEGACEN (12 exposures) (04)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT
(Visit 04 - OMEGACEN (12 exposures) (04)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT
(Visit 04 - OMEGACEN (12 exposures) (04)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT
(Visit 04 - OMEGACEN (12 exposures) (04)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT
(Visit 04 - OMEGACEN (12 exposures) (04)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT
(Visit 04 - OMEGACEN (12 exposures) (04)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT
(Exposure 1 - 30s BKG 1 (04.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 2 - 348s BKG 20 (04.002)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 3 - 348s BKG 25 (04.003)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 5 - 348s BKG 56 (04.005)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 6 - 30s BKG 12 (04.006)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 7 - 30s BKG 1 (04.007)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 8 - 348s BKG 20 (04.008)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 9 - 348s BKG 25 (04.009)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 11 - 348s BKG 56 (04.011)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser
(Exposure 12 - 30s BKG 12 (04.012)) 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
(1)	OMEGACEN	RA: 13 26 46.2800 (201.6928333d) Dec: -47 28 44.60 (-47.47906d) Equinox: J2000		V=16.8	Reference Frame: ICRS

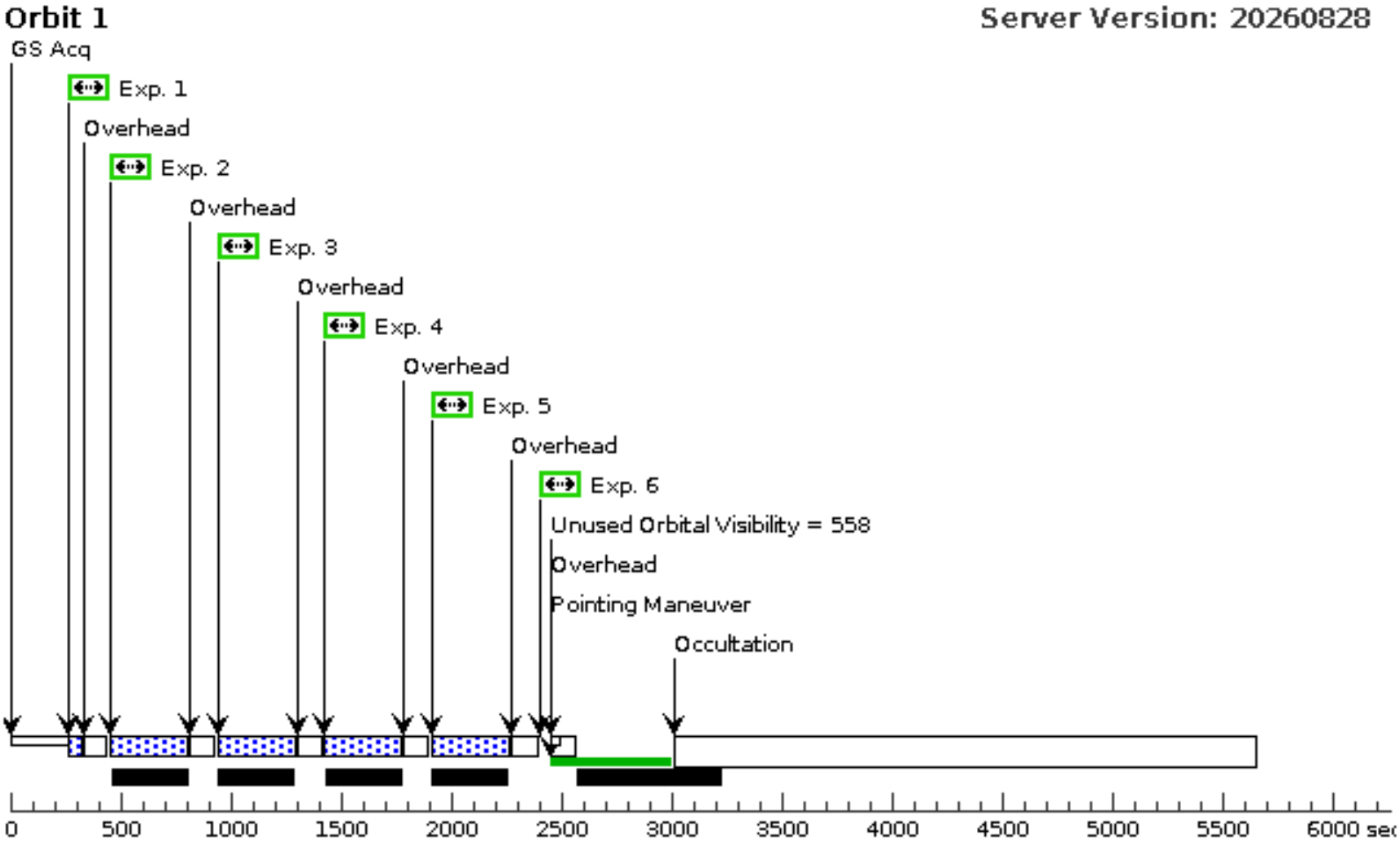
Comments:
Category=STELLAR CLUSTER
Description=[GLOBULAR CLUSTER]

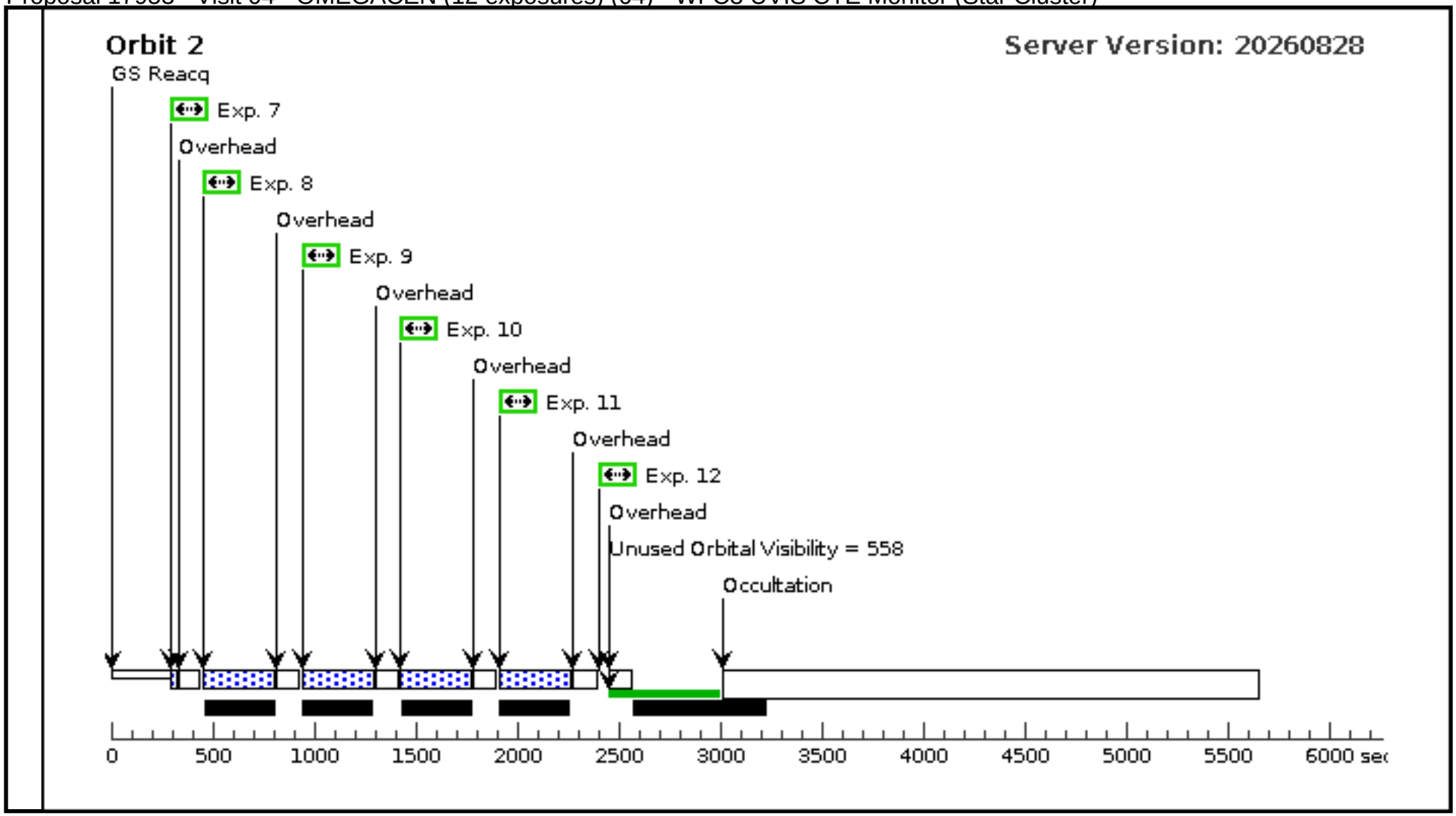
Proposal 17953 - Visit 04 - OMEGACEN (12 exposures) (04) - WFC3 UVIS CTE Monitor (Star Cluster)

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Exposure 1 - 30s BKG 1	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO			30 Secs (30 Secs) *[==>]*	*[1]*
2	Exposure 2 - 348s BKG 2 0	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=10			348 Secs (348 Secs) *[==>]*	*[1]*
3	Exposure 3 - 348s BKG 2 5	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=15			348 Secs (348 Secs) *[==>]*	*[1]*
4	Exposure 4- 348s BKG 3 4	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=23			348 Secs (348 Secs) *[==>]*	*[1]*
5	Exposure 5 - 348s BKG 5 6	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASHCUR=LOW; FLASHEXP=17.24			348 Secs (348 Secs) *[==>]*	*[1]*
6	Exposure 6 - 30s BKG 12	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=11			30 Secs (30 Secs) *[==>]*	*[1]*
7	Exposure 7 - 30s BKG 1	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO	POS TARG 0,81.6		30 Secs (30 Secs) *[==>]*	*[2]*
8	Exposure 8 - 348s BKG 2 0	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=10	POS TARG 0,81.6		348 Secs (348 Secs) *[==>]*	*[2]*
9	Exposure 9 - 348s BKG 2 5	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=15	POS TARG 0,81.6		348 Secs (348 Secs) *[==>]*	*[2]*
10	Exposure 10 - 348s BKG 34	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=23	POS TARG 0,81.6		348 Secs (348 Secs) *[==>]*	*[2]*
11	Exposure 11 - 348s BKG 56	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASHCUR=LOW; FLASHEXP=17.24	POS TARG 0,81.6		348 Secs (348 Secs) *[==>]*	*[2]*
12	Exposure 12 - 30s BKG 1 2	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F502N	CR-SPLIT=NO; FLASH=11	POS TARG 0,81.6		30 Secs (30 Secs) *[==>]*	*[2]*

Orbit Structure




Orbit 2
Server Version: 20260828
GS Reacq
Exp. 7
Overhead
Exp. 8
Overhead
Exp. 9
Overhead
Exp. 10
Overhead
Exp. 11
Overhead
Exp. 12
Overhead
Unused Orbital Visibility = 558
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec