17023 - WFC3 Astrometric Scale Monitoring

Cycle: 30, Proposal Category: CAL/WFC3

(Availability Mode: RESTRICTED)

INVESTIGATORS

Name	*Institution*
Ms. Catherine A Martlin (PI) (Contact)	**Space Telescope Science Institute**
Varun Bajaj (CoI) (Contact)	Space Telescope Science Institute
Dr. Vera Kozhurina-Platais (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	1	25-Apr-2023 16:00:14.0	yes
02	(1) OMEGACEN	WFC3/UVIS	1	25-Apr-2023 16:00:14.0	yes
03	(1) OMEGACEN	WFC3/UVIS	1	25-Apr-2023 16:00:15.0	yes
04	(1) OMEGACEN	WFC3/IR	1	25-Apr-2023 16:00:15.0	yes
05	(1) OMEGACEN	WFC3/IR	1	25-Apr-2023 16:00:15.0	yes
06	(1) OMEGACEN	WFC3/IR	1	25-Apr-2023 16:00:15.0	yes
07	(1) OMEGACEN	WFC3/UVIS	1	25-Apr-2023 16:00:16.0	yes
08	(1) OMEGACEN	WFC3/UVIS	1	25-Apr-2023 16:00:16.0	yes
09	(1) OMEGACEN	WFC3/UVIS	1	25-Apr-2023 16:00:16.0	yes
10	(1) OMEGACEN	WFC3/IR	1	25-Apr-2023 16:00:16.0	yes
11	(1) OMEGACEN	WFC3/IR	1	25-Apr-2023 16:00:17.0	yes
12	(1) OMEGACEN	WFC3/IR	1	25-Apr-2023 16:00:17.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
69	(1) OMEGACEN	WFC3/IR	1	25-Apr-2023 16:00:17.0	yes
70	(1) OMEGACEN	WFC3/IR	1	25-Apr-2023 16:00:17.0	yes
71	(1) OMEGACEN	WFC3/IR	1	25-Apr-2023 16:00:18.0	yes
13	(1) OMEGACEN	WFC3/UVIS	1	25-Apr-2023 16:00:18.0	yes
14	(1) OMEGACEN	WFC3/UVIS	1	25-Apr-2023 16:00:18.0	yes
15	(1) OMEGACEN	WFC3/UVIS	1	25-Apr-2023 16:00:18.0	yes
16	(1) OMEGACEN	WFC3/IR	1	25-Apr-2023 16:00:19.0	yes
17	(1) OMEGACEN	WFC3/IR	1	25-Apr-2023 16:00:19.0	yes
18	(1) OMEGACEN	WFC3/IR	1	25-Apr-2023 16:00:19.0	yes

21 Total Orbits Used

ABSTRACT

The standard astrometric catalog in the field of globular cluster Omega Cen has been used to examine the geometric distortion of WFC3 UVIS and IR as function of wavelength in multicycle calibration programs over last 11 years of WFC3 on HST board. All observations from these programs have been reduced and provided the multi-wavelength geometric distortion in UVIS and IR detector. The derived geometric distortion coefficients implemented in the IDCTAB format are used in the HST pipe-line to correct for a ~7% distortion in WFC3/UVIS and IR images down to <1%.

Additional to multi-wavelength WFC3 geometric distortion, all observations of Omega Cen taken through F606W and F160W UVIS and IR filters respectively during the last 11 years (all together 12 epochs) were used to look for time dependency of UVIS and IR geometric distortion and the effect of the scale change due to the thermal breathing. The results of the stability WFC3 geometric distortion published in WFC3-ISR-2015-02 (Kozhurina-Platais & Anderson, 2015), WFC3-ISR-2019-09 (Martlin, Kozhurina-Platais), have show that the UVIS geometric distortion is stable over 10 years on-orbit within 0.05 pixels or 2 mas in UVIS. The results of WFC3/IR published in WFC3-ISR-09-19 (M. McKay, Kozhurina-Platais, et al) have show that the IR geometric distorion is stable over 10 years on orbits within 0.1 pixel or 2 mas.
The same observations were used to examinate the WFC3/UVIS and IR photometric changes with time (WFC3-ISR-2020-05, Kozhurina-Platais, Bagget).

The purpose of this calibration proposal is to continue the monitor of the WFC3 geometric distortion stability of over time. The observations of

Omega Cen through the UVIS F606W filter and the F160W IR filter will be used to derive the skew and scale terms of the geometric distortion and look for any secular changes over time.

OBSERVING DESCRIPTION

The observation of Omega Cen through F606W and F160W is used as a standard filter in UVIS and IR, respectively. They are observed with the same pointing but with different roll-angle of the OTA in three time periods - between December 2022 and February 2023; between March 2023 and May 2023; and between June 2023 and October 2023.

The set of 6 exposures in F606W and F160W filters are the allowed full range of roll-angles at the ecliptic latitude of Omega Cen, and ranged approximately from 10 to 350 degree during the Cycle 30 from December 2022 to September 2023 timeframe.

Three UVIS exposures and IR 3 exposures in visits 1- 6 will be observed in the range of U3 angle from 250-300 degree with the step of +/-5 degree from the nominal roll angle.

The next three UVIS exposures and 3 IR exposures in visists 7-12 orbits will obserevd in the range of U3 from 300 - 350 degree with the step +/5 degree from the nominal roll angle. The last three UVIS exposures and 3 IR exposures in 13-18 visist will obserevd in the range of U3 between 0 to 120 degree with the step of +/-5 de

In order to improve the schedule, a small range of roll is allowed at each specific roll angle. The order of the exposures in each orbit is specified by a SEQUENTIAL Special Requirement and the order of the visist is specified by AFTER Special Requirements. To maintain accurate pointing control, 2-guide star acquisitions are used. If suitable guide stars can be found, the same pair of guide stars are used for all 18 exposures.

The geometric distortion of WFC3 in 13 UVIS and 8 IR filters were calibrated using the standard astrometric catalog of Omega Cen (Anderson & van der Martel, 2010). A more recent set of updated distortions were obtained for 20 UVIS filters using the same standard astrometric catalog of Omega Cen (Kozhurina-Platais, WFC3-ISR-2014-12; Martlin et al. WFC3-ISR-2018-11). The goal of this proposal is to monitor the geometric distortion of both the UVIS and IR detectors. The skew parameter in the ACS/WFC case, is changing with time in the level of 40 mas over 15 years on board of HST. The skew parameter is the non-perpendicularity of coordinate axes and is the major parameter in the geometric distortion model.

As it has show by Kozhurina-Platais et.al (WFC3-ISR -2015-02), the skew in UVIS geometric distortion model during 7 years of WFC3 on board is

stable and in the range of +/-4 mas which gives the offest at << +/-0.1 pixels at the far edges of UVIS frames. Thus, the goal of this calibration proposal is to continue the monitor the UVIS and IR skew as a function of time.

The 3 exposures in UVIS with steps of roll-angles +/-5 degree of off-nominal roll-angles require 3 orbits, the same 3 exposures in IR with the steps of roll-angles +/-5 degree of nominal roll-angles, also require 3 orbits. However, APT requires each Visit to begin at the start of an orbit and therefore calculates that this proposal requires 18 orbits, which APT indicates is mostly unused. Accordingly, APT generates a Warning that the Visits will not fit within the required 2 orbits and 10 Warnings that the SEQUENTIAL sets cannot fit within one orbit. However, based upon known overheads for the moderate roll-slews used and overheads for full guide star acquisitions, these indicated VISITS (1,2,3, with UVIS and 4,5,6 with IR) should be be schedule in 2 orbits. The exposures with UVIS are: Orbit #1, Visits 1,2,3 off-nominal roll +/-5,+/-5 degree; Orbit #2, Visit 7,8,9 off-nominal roll +/-5,0,+/-5 degree; Orbit #3, Visits 13,14,15 off-nominal roll +/-5,0,+/-5 degree. The similar requirement for exposures with IR are: Orbit #1, Visits 3,4,5 off-nominal roll +/-5,0,+/-5 degree; Orbit #2, Visits 10,11,12 off-nominal roll +/-5,0,+/-5 degree; and Orbit #3, Visits 16,17,18 off-nominal roll +/-5,0,+/-5 degree.

Visit

Proposal 17023, Visit 01 F606W (01), completed Tue Apr 25 20:00:19 GMT 2023

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 284D TO 284 D; BETWEEN 01-DEC-2022:00:00:00 AND 15-FEB-2023:00:00:00; SEQ 01,02,03 WITHIN 1 Orbits

Diagnostics

(F606W (01.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

Fixed Targets

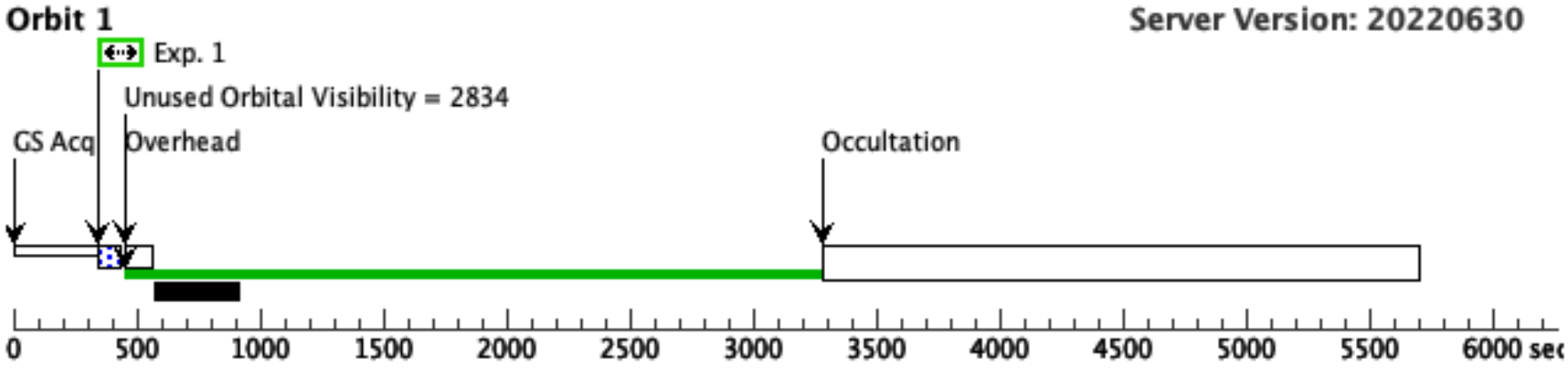
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	OMEGACEN	RA: 13 26 46.2800 (201.6928333d) Dec: -47 28 44.60 (-47.47906d) Equinox: J2000		V=16.8+/-0.1	Reference Frame: ICRS

Comments: This is the same target (and coordinates) as used in CAL/WFC3 11911, UVIS L-Flats and Geometric Distortion and in other multi-cycles calibartion proposals
Category=CALIBRATION
Description=[ASTROMETRIC, SPATIAL DISTORTION TEST]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F606W	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F606W	FLASH=12	GS ACQ SCENARIO BASE1B3		60.0 Secs (60 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 17023, Visit 02 F606W (02), completed Tue Apr 25 20:00:20 GMT 2023

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 285.5D TO 285.5 D; BETWEEN 01-DEC-2022:00:00:00 AND 15-FEB-2023:00:00:00; SEQ 01,02,03 WITHIN 1 Orbits

Diagnostics

(F606W (02.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

Fixed Targets

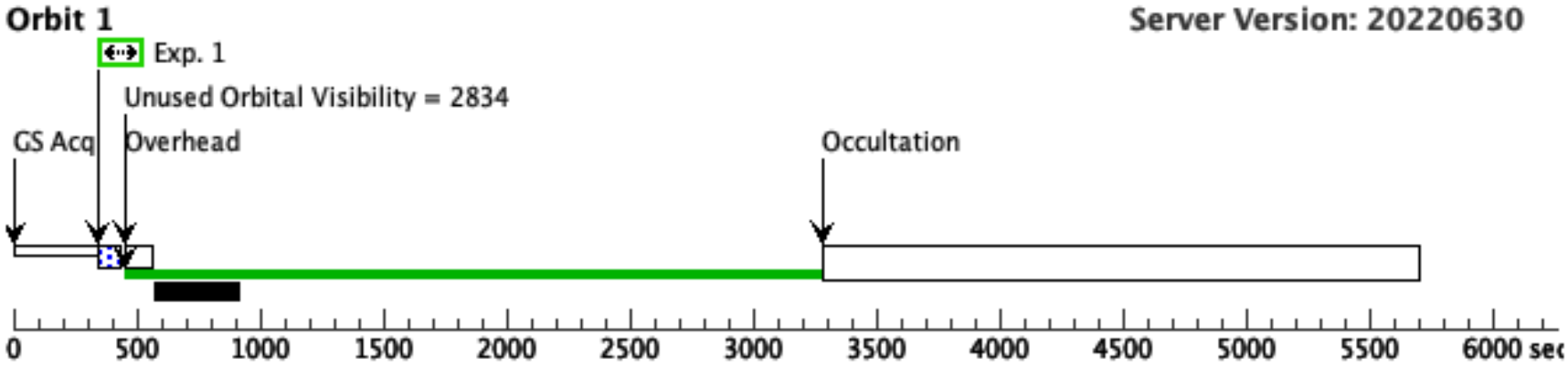
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	OMEGACEN	RA: 13 26 46.2800 (201.6928333d) Dec: -47 28 44.60 (-47.47906d) Equinox: J2000		V=16.8+/-0.1	Reference Frame: ICRS

Comments: This is the same target (and coordinates) as used in CAL/WFC3 11911, UVIS L-Flats and Geometric Distortion and in other multi-cycles calibartion proposals
Category=CALIBRATION
Description=[ASTROMETRIC, SPATIAL DISTORTION TEST]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F606W	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F606W	FLASH=12	GS ACQ SCENARIO BASE1B3		60.0 Secs (60 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 17023, Visit 03 F606W (03), completed Tue Apr 25 20:00:20 GMT 2023

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 287D TO 287 D; BETWEEN 01-DEC-2022:00:00:00 AND 15-FEB-2023:00:00:00; SEQ 01,02,03 WITHIN 1 Orbits

Diagnostics

(F606W (03.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

Fixed Targets

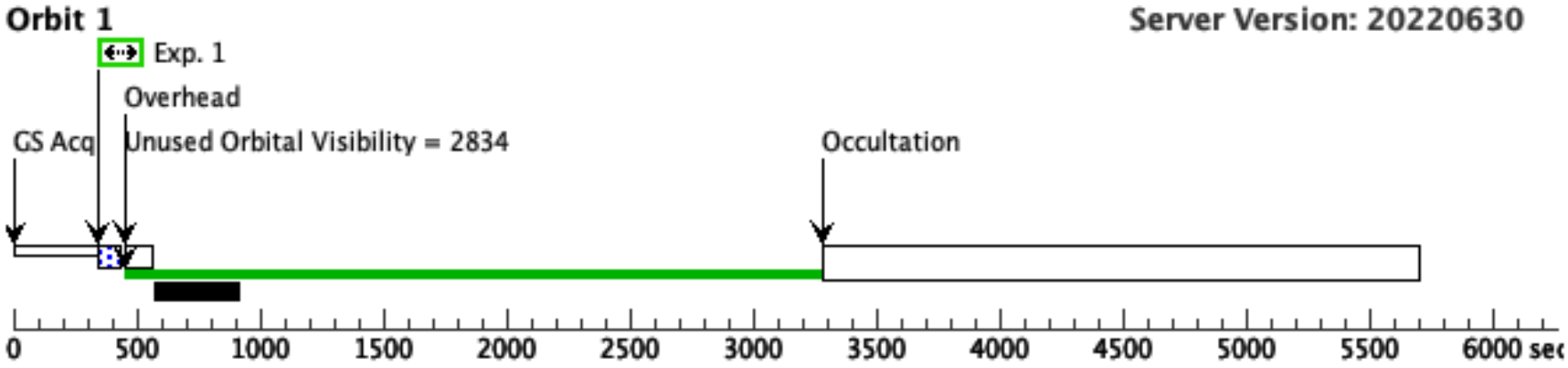
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	OMEGACEN	RA: 13 26 46.2800 (201.6928333d) Dec: -47 28 44.60 (-47.47906d) Equinox: J2000		V=16.8+/-0.1	Reference Frame: ICRS

Comments: This is the same target (and coordinates) as used in CAL/WFC3 11911, UVIS L-Flats and Geometric Distortion and in other multi-cycles calibartion proposals
Category=CALIBRATION
Description=[ASTROMETRIC, SPATIAL DISTORTION TEST]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F606W	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F606W	FLASH=12	GS ACQ SCENARIO BASE1B3		60.0 Secs (60 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 17023, Visit 04 F160W (04), completed Tue Apr 25 20:00:20 GMT 2023

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: PCS MODE FINE; ORIENT 291.5D TO 291.5 D; BETWEEN 01-DEC-2022:00:00:00 AND 15-FEB-2023:00:00:00; SEQ 04,05,06 WITHIN 1 Orbits

Fixed Targets

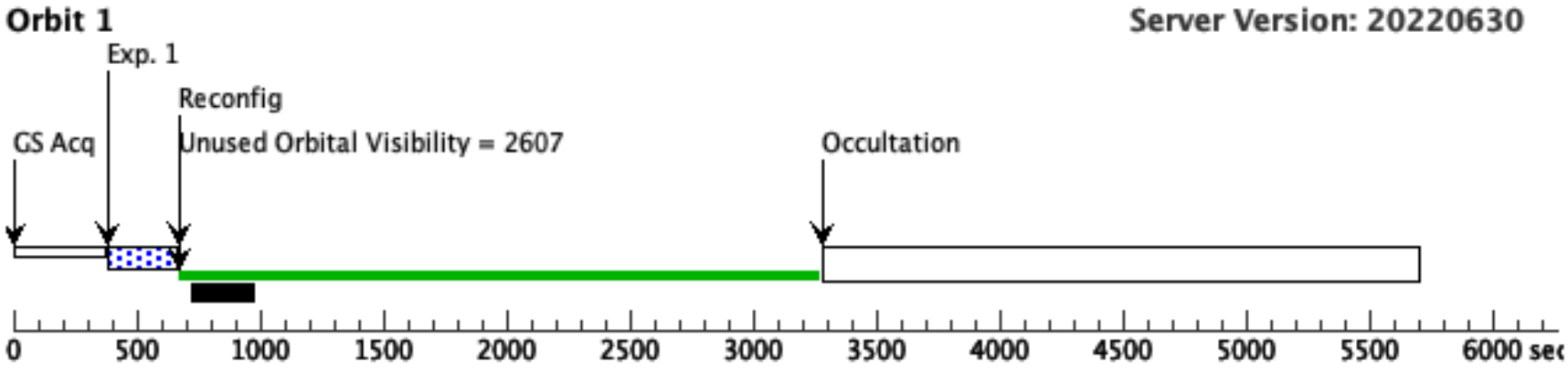
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	OMEGACEN	RA: 13 26 46.2800 (201.6928333d) Dec: -47 28 44.60 (-47.47906d) Equinox: J2000		V=16.8+/-0.1	Reference Frame: ICRS

Comments: This is the same target (and coordinates) as used in CAL/WFC3 11911, UVIS L-Flats and Geometric Distortion and in other multi-cycles calibartion proposals
Category=CALIBRATION
Description=[ASTROMETRIC, SPATIAL DISTORTION TEST]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F160W	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS25; NSAMP=11	EXP PCS MODE FINE; GS ACQ SCENARIO BASE1B3		252.937441 Secs (252.937 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 17023, Visit 05 F160W (05), completed Tue Apr 25 20:00:20 GMT 2023

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: PCS MODE FINE; ORIENT 293.0D TO 293.0 D; BETWEEN 01-DEC-2022:00:00:00 AND 15-FEB-2023:00:00:00; SEQ 04,05,06 WITHIN 1 Orbits

Fixed Targets

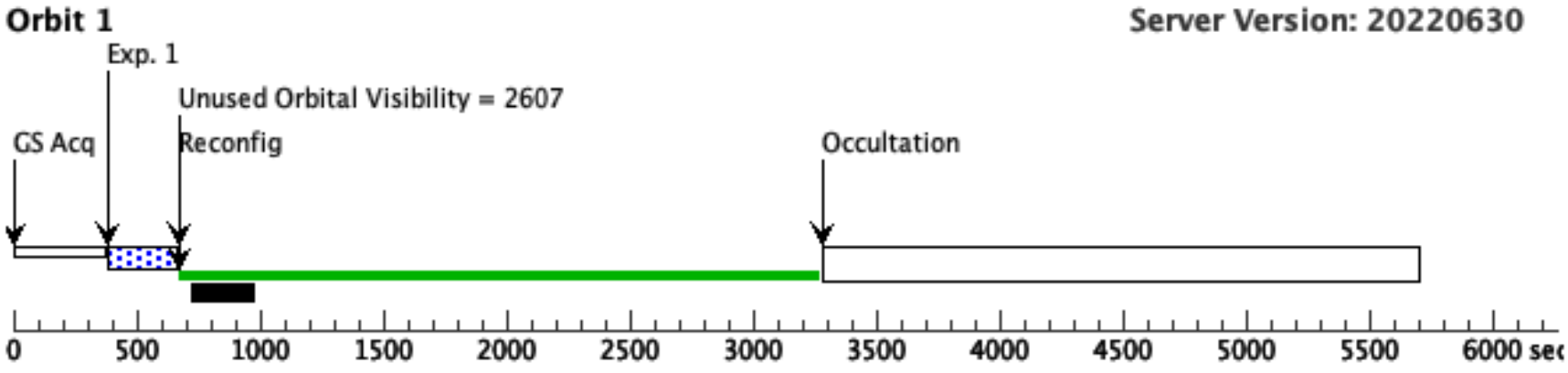
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	OMEGACEN	RA: 13 26 46.2800 (201.6928333d) Dec: -47 28 44.60 (-47.47906d) Equinox: J2000		V=16.8+/-0.1	Reference Frame: ICRS

Comments: This is the same target (and coordinates) as used in CAL/WFC3 11911, UVIS L-Flats and Geometric Distortion and in other multi-cycles calibartion proposals
Category=CALIBRATION
Description=[ASTROMETRIC, SPATIAL DISTORTION TEST]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F160W	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS25; NSAMP=11	EXP PCS MODE FINE; GS ACQ SCENARIO BASE1B3		252.937441 Secs (252.937 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 17023, Visit 06 F160W (06), completed Tue Apr 25 20:00:20 GMT 2023

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: PCS MODE FINE; ORIENT 294.5D TO 294.5 D; BETWEEN 01-DEC-2022:00:00:00 AND 15-FEB-2023:00:00:00; SEQ 04,05,06 WITHIN 1 Orbits

Fixed Targets

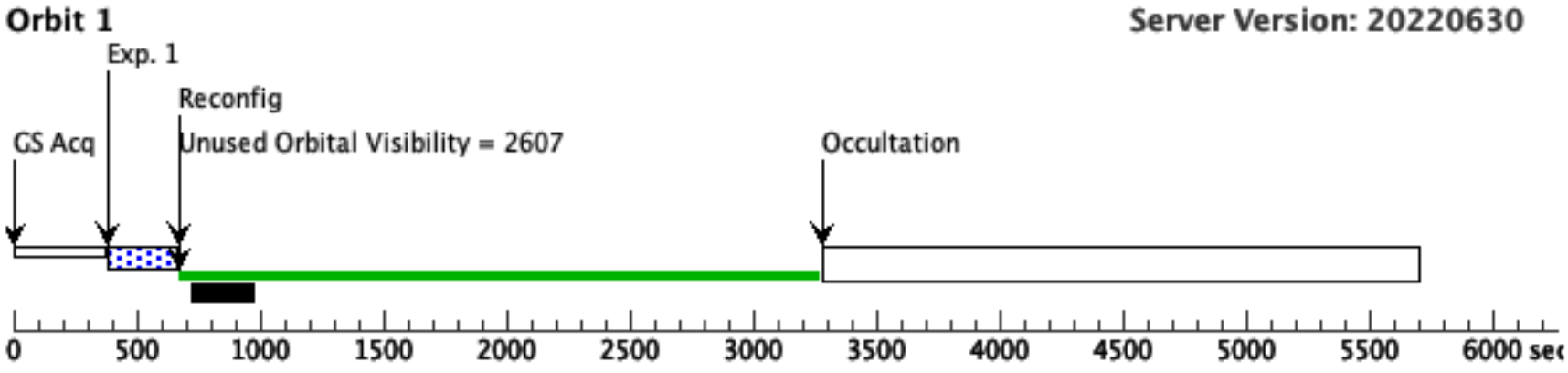
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	OMEGACEN	RA: 13 26 46.2800 (201.6928333d) Dec: -47 28 44.60 (-47.47906d) Equinox: J2000		V=16.8+/-0.1	Reference Frame: ICRS

Comments: This is the same target (and coordinates) as used in CAL/WFC3 11911, UVIS L-Flats and Geometric Distortion and in other multi-cycles calibartion proposals
Category=CALIBRATION
Description=[ASTROMETRIC, SPATIAL DISTORTION TEST]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F160W	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS25; NSAMP=11	EXP PCS MODE FINE; GS ACQ SCENARIO BASE1B3		252.937441 Secs (252.937 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 17023, Visit 07 F606W (07), completed Tue Apr 25 20:00:20 GMT 2023

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 339D TO 339 D; BETWEEN 15-MAR-2023:00:00:00 AND 01-MAY-2023:00:00:00; SEQ 07,08,09 WITHIN 1.1 Orbits

Diagnostics

(F606W (07.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

Fixed Targets

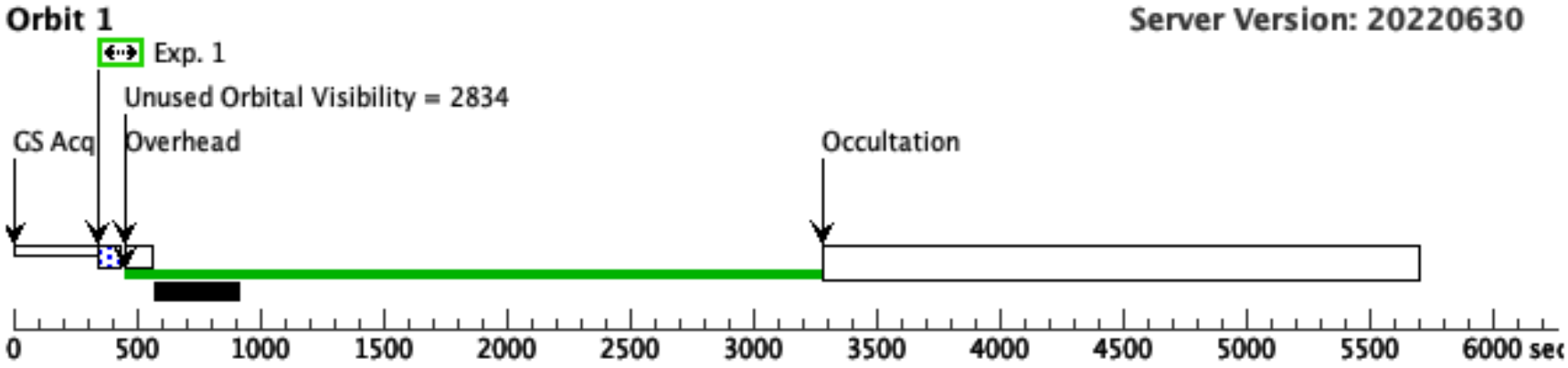
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	OMEGACEN	RA: 13 26 46.2800 (201.6928333d) Dec: -47 28 44.60 (-47.47906d) Equinox: J2000		V=16.8+/-0.1	Reference Frame: ICRS

Comments: This is the same target (and coordinates) as used in CAL/WFC3 11911, UVIS L-Flats and Geometric Distortion and in other multi-cycles calibartion proposals
Category=CALIBRATION
Description=[ASTROMETRIC, SPATIAL DISTORTION TEST]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F606W	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F606W	FLASH=12	GS ACQ SCENARIO BASE1B3		60.0 Secs (60 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 17023, Visit 08 F606W (08), completed Tue Apr 25 20:00:20 GMT 2023

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 340.5D TO 340.5 D; BETWEEN 15-MAR-2023:00:00:00 AND 01-MAY-2023:00:00:00; SEQ 07,08,09 WITHIN 1.1 Orbits

Diagnostics

(F606W (08.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

Fixed Targets

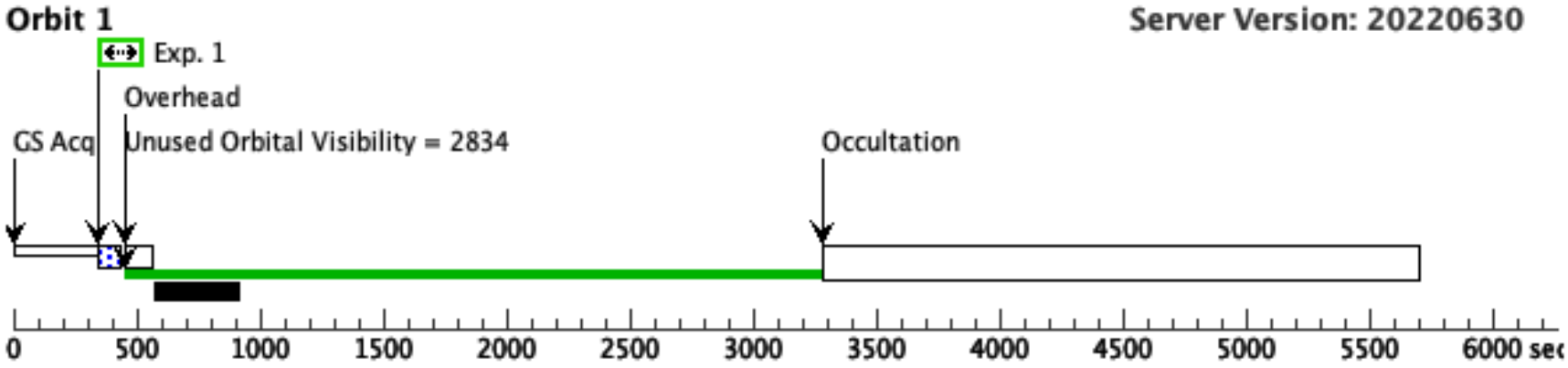
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	OMEGACEN	RA: 13 26 46.2800 (201.6928333d) Dec: -47 28 44.60 (-47.47906d) Equinox: J2000		V=16.8+/-0.1	Reference Frame: ICRS

Comments: This is the same target (and coordinates) as used in CAL/WFC3 11911, UVIS L-Flats and Geometric Distortion and in other multi-cycles calibartion proposals
Category=CALIBRATION
Description=[ASTROMETRIC, SPATIAL DISTORTION TEST]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F606W	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F606W	FLASH=12	GS ACQ SCENARIO BASE1B3		60.0 Secs (60 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 17023, Visit 09 F606W (09), completed Tue Apr 25 20:00:20 GMT 2023

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 342D TO 342 D; BETWEEN 15-MAR-2023:00:00:00 AND 01-MAY-2023:00:00:00; SEQ 07,08,09 WITHIN 1.1 Orbits

Diagnostics

(F606W (09.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

Fixed Targets

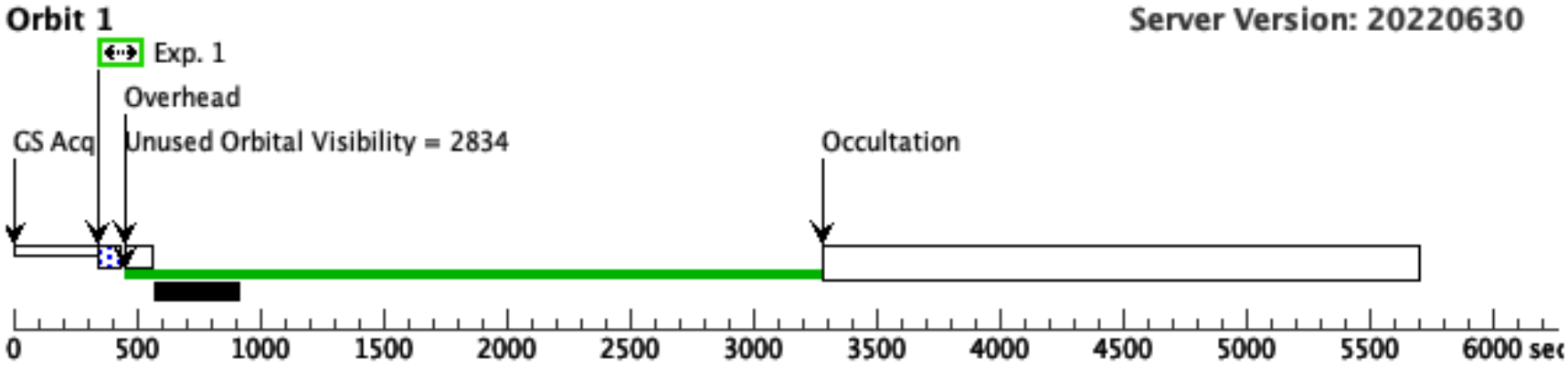
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	OMEGACEN	RA: 13 26 46.2800 (201.6928333d) Dec: -47 28 44.60 (-47.47906d) Equinox: J2000		V=16.8+/-0.1	Reference Frame: ICRS

Comments: This is the same target (and coordinates) as used in CAL/WFC3 11911, UVIS L-Flats and Geometric Distortion and in other multi-cycles calibartion proposals
Category=CALIBRATION
Description=[ASTROMETRIC, SPATIAL DISTORTION TEST]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F606W	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F606W	FLASH=12	GS ACQ SCENARIO BASE1B3		60.0 Secs (60 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 17023, Visit 10 F160W (10), failed Tue Apr 25 20:00:20 GMT 2023

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: PCS MODE FINE; ORIENT 344.5D TO 344.5 D; BETWEEN 15-MAR-2023:00:00:00 AND 01-MAY-2023:00:00:00; SEQ 10,11,12 WITHIN 1.1 Orbits

Fixed Targets

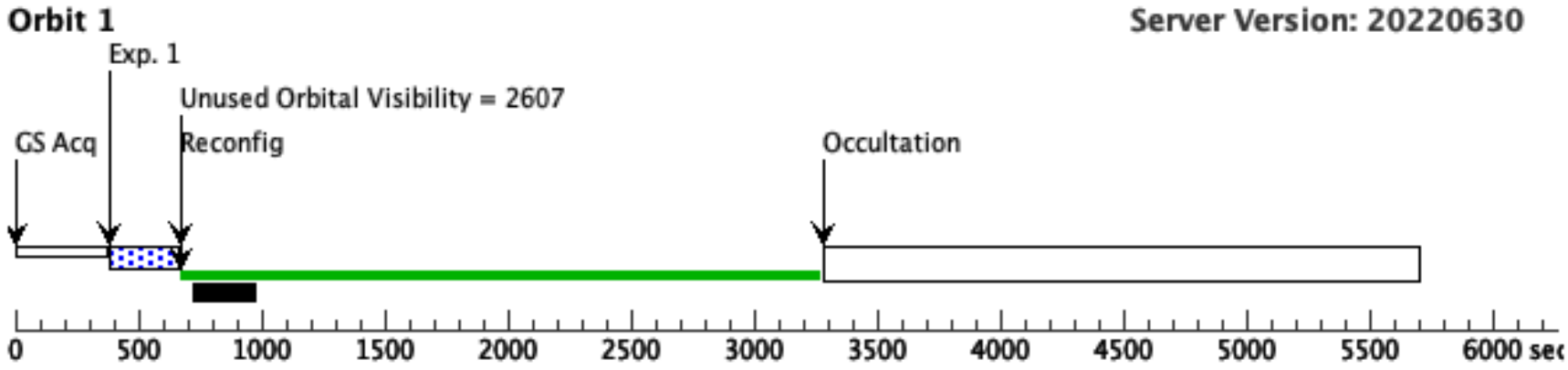
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	OMEGACEN	RA: 13 26 46.2800 (201.6928333d) Dec: -47 28 44.60 (-47.47906d) Equinox: J2000		V=16.8+/-0.1	Reference Frame: ICRS

Comments: This is the same target (and coordinates) as used in CAL/WFC3 11911, UVIS L-Flats and Geometric Distortion and in other multi-cycles calibartion proposals
Category=CALIBRATION
Description=[ASTROMETRIC, SPATIAL DISTORTION TEST]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F160W	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS25; NSAMP=11	EXP PCS MODE FINE; GS ACQ SCENARIO BASE1B3		252.937441 Secs (252.937 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 17023, Visit 11 F160W (11), failed Tue Apr 25 20:00:20 GMT 2023

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: PCS MODE FINE; ORIENT 346D TO 346 D; BETWEEN 15-MAR-2023:00:00:00 AND 01-MAY-2023:00:00:00; SEQ 10,11,12 WITHIN 1.1 Orbits

Fixed Targets

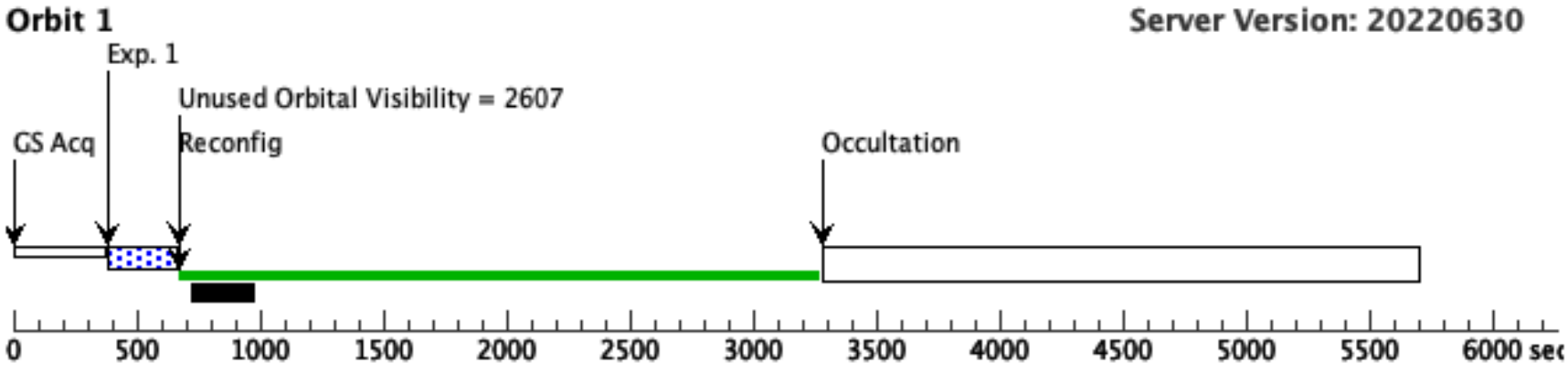
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	OMEGACEN	RA: 13 26 46.2800 (201.6928333d) Dec: -47 28 44.60 (-47.47906d) Equinox: J2000		V=16.8+/-0.1	Reference Frame: ICRS

Comments: This is the same target (and coordinates) as used in CAL/WFC3 11911, UVIS L-Flats and Geometric Distortion and in other multi-cycles calibartion proposals
Category=CALIBRATION
Description=[ASTROMETRIC, SPATIAL DISTORTION TEST]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F160W	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS25; NSAMP=11	EXP PCS MODE FINE; GS ACQ SCENARIO BASE1B3		252.937441 Secs (252.937 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 17023, Visit 12 F160W (12), failed Tue Apr 25 20:00:20 GMT 2023

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: PCS MODE FINE; ORIENT 347D TO 347 D; BETWEEN 15-MAR-2023:00:00:00 AND 01-MAY-2023:00:00:00; SEQ 10,11,12 WITHIN 1.1 Orbits

Fixed Targets

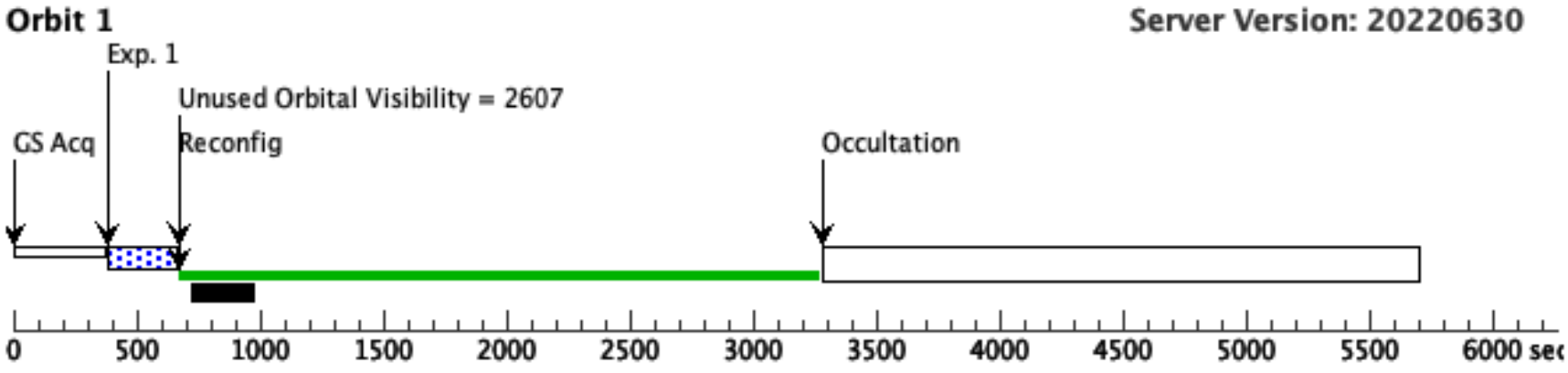
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	OMEGACEN	RA: 13 26 46.2800 (201.6928333d) Dec: -47 28 44.60 (-47.47906d) Equinox: J2000		V=16.8+/-0.1	Reference Frame: ICRS

Comments: This is the same target (and coordinates) as used in CAL/WFC3 11911, UVIS L-Flats and Geometric Distortion and in other multi-cycles calibartion proposals
Category=CALIBRATION
Description=[ASTROMETRIC, SPATIAL DISTORTION TEST]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F160W	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS25; NSAMP=11	EXP PCS MODE FINE; GS ACQ SCENARIO BASE1B3		252.937441 Secs (252.937 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 17023, Visit 10 F160W (69), implementation Tue Apr 25 20:00:20 GMT 2023

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: PCS MODE FINE; ORIENT 27D TO 27 D; BETWEEN 15-MAR-2023:00:00:00 AND 15-MAY-2023:00:00:00; SEQ 69,70,71 WITHIN 1.1 Orbits

Fixed Targets

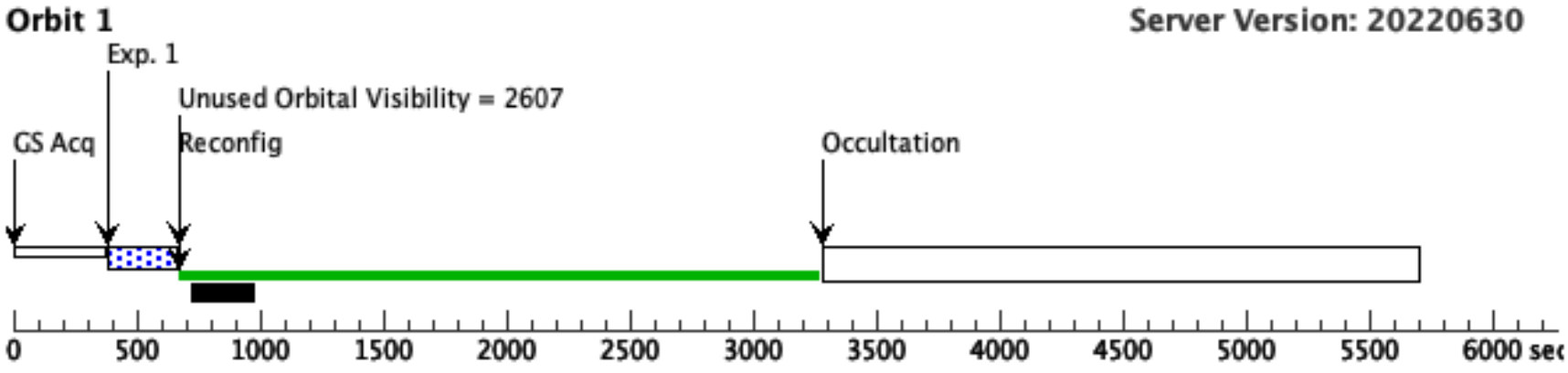
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	OMEGACEN	RA: 13 26 46.2800 (201.6928333d) Dec: -47 28 44.60 (-47.47906d) Equinox: J2000		V=16.8+/-0.1	Reference Frame: ICRS

Comments: This is the same target (and coordinates) as used in CAL/WFC3 11911, UVIS L-Flats and Geometric Distortion and in other multi-cycles calibartion proposals
Category=CALIBRATION
Description=[ASTROMETRIC, SPATIAL DISTORTION TEST]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F160W	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS25; NSAMP=11	EXP PCS MODE FINE; GS ACQ SCENARIO BASE1B3		252.937441 Secs (252.937 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 17023, Visit 11 F160W (70), implementation Tue Apr 25 20:00:20 GMT 2023

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: PCS MODE FINE; ORIENT 28.5D TO 28.5 D; BETWEEN 15-MAR-2023:00:00:00 AND 15-MAY-2023:00:00:00; SEQ 69,70,71 WITHIN 1.1 Orbits

Fixed Targets

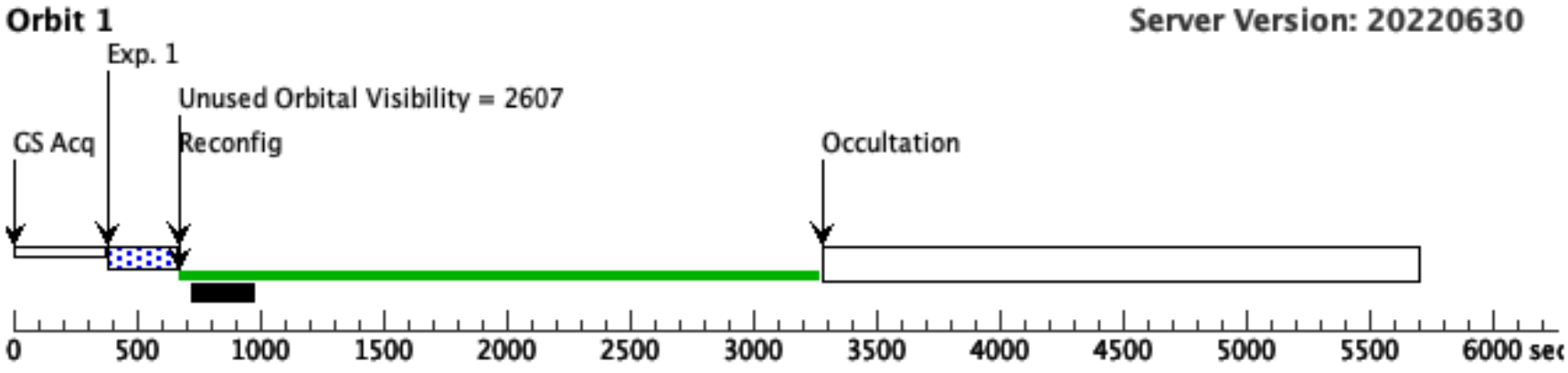
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	OMEGACEN	RA: 13 26 46.2800 (201.6928333d) Dec: -47 28 44.60 (-47.47906d) Equinox: J2000		V=16.8+/-0.1	Reference Frame: ICRS

Comments: This is the same target (and coordinates) as used in CAL/WFC3 11911, UVIS L-Flats and Geometric Distortion and in other multi-cycles calibartion proposals
Category=CALIBRATION
Description=[ASTROMETRIC, SPATIAL DISTORTION TEST]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F160W	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS25; NSAMP=11	EXP PCS MODE FINE; GS ACQ SCENARIO BASE1B3		252.937441 Secs (252.937 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 17023, Visit 12 F160W (71), implementation Tue Apr 25 20:00:20 GMT 2023

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: PCS MODE FINE; ORIENT 30D TO 30 D; BETWEEN 15-MAR-2023:00:00:00 AND 15-MAY-2023:00:00:00; SEQ 69,70,71 WITHIN 1.1 Orbits

Fixed Targets

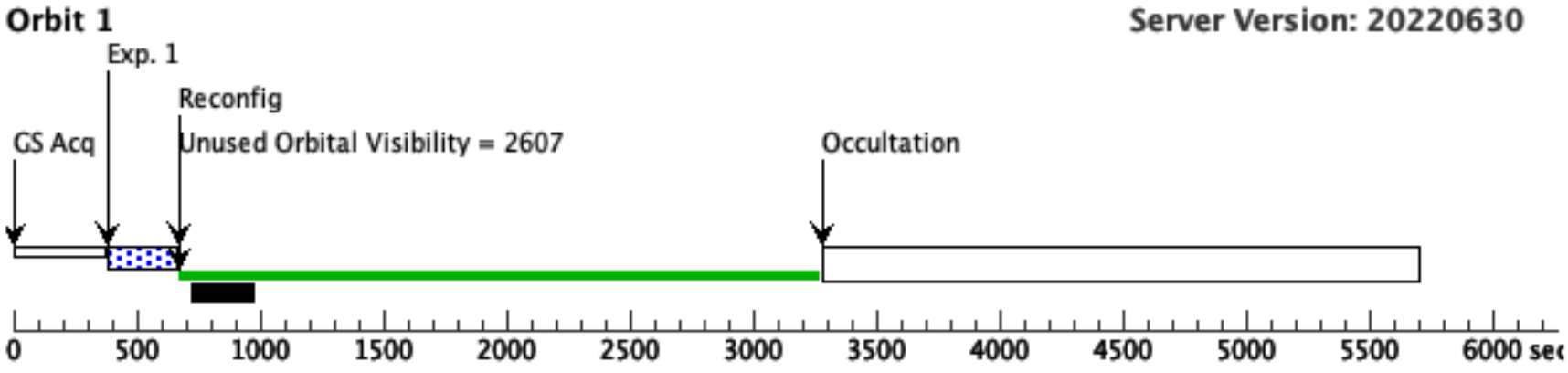
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	OMEGACEN	RA: 13 26 46.2800 (201.6928333d) Dec: -47 28 44.60 (-47.47906d) Equinox: J2000		V=16.8+/-0.1	Reference Frame: ICRS

Comments: This is the same target (and coordinates) as used in CAL/WFC3 11911, UVIS L-Flats and Geometric Distortion and in other multi-cycles calibartion proposals
Category=CALIBRATION
Description=[ASTROMETRIC, SPATIAL DISTORTION TEST]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F160W	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS25; NSAMP=11	EXP PCS MODE FINE; GS ACQ SCENARIO BASE1B3		252.937441 Secs (252.937 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 17023, Visit 13 F606W (13), scheduling Tue Apr 25 20:00:20 GMT 2023

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 90D TO 90 D; BETWEEN 01-JUN-2023:00:00:00 AND 01-OCT-2023:00:00:00; SEQ 13,14,15 WITHIN 1.1 Orbits

Diagnostics

(F606W (13.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

Fixed Targets

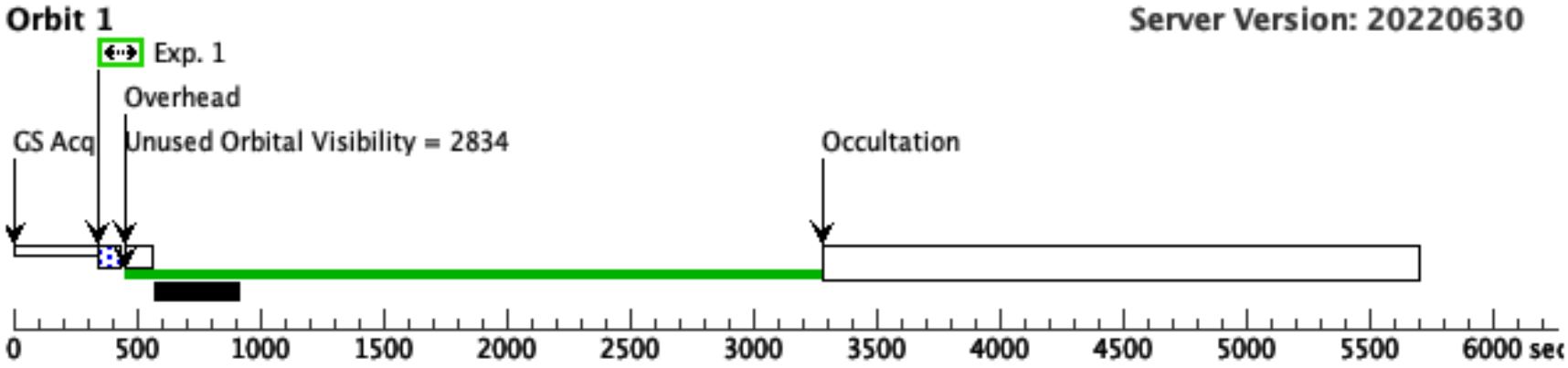
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	OMEGACEN	RA: 13 26 46.2800 (201.6928333d) Dec: -47 28 44.60 (-47.47906d) Equinox: J2000		V=16.8+/-0.1	Reference Frame: ICRS

Comments: This is the same target (and coordinates) as used in CAL/WFC3 11911, UVIS L-Flats and Geometric Distortion and in other multi-cycles calibartion proposals
Category=CALIBRATION
Description=[ASTROMETRIC, SPATIAL DISTORTION TEST]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F606W	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F606W	FLASH=12	GS ACQ SCENARIO BASE1B3		60.0 Secs (60 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 17023, Visit 14 F606W (14), scheduling Tue Apr 25 20:00:20 GMT 2023

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 91.5D TO 91.5 D; BETWEEN 01-JUN-2023:00:00:00 AND 01-OCT-2023:00:00:00; SEQ 13,14,15 WITHIN 1.1 Orbits

Diagnostics

(F606W (14.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

Fixed Targets

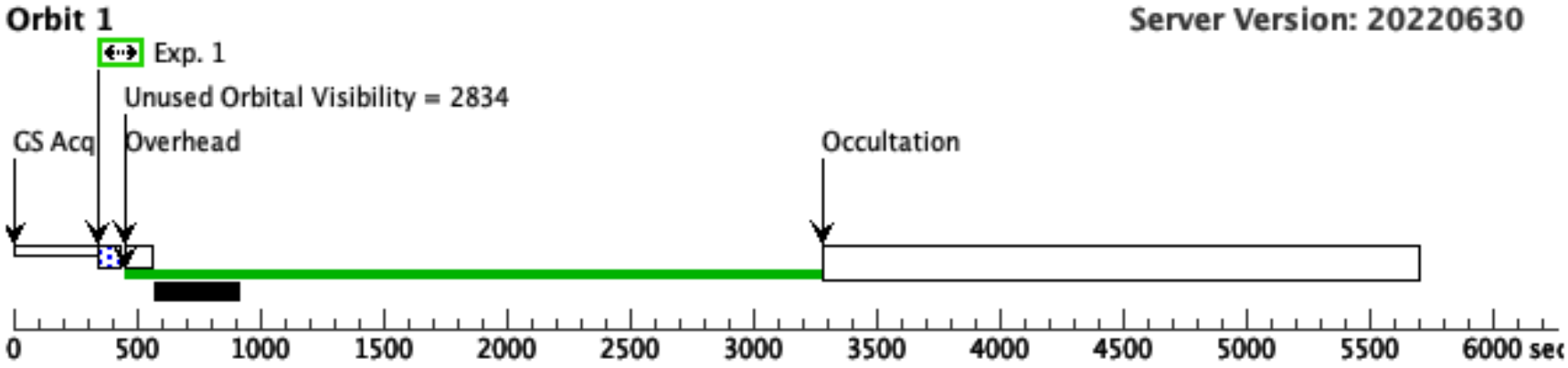
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	OMEGACEN	RA: 13 26 46.2800 (201.6928333d) Dec: -47 28 44.60 (-47.47906d) Equinox: J2000		V=16.8+/-0.1	Reference Frame: ICRS

Comments: This is the same target (and coordinates) as used in CAL/WFC3 11911, UVIS L-Flats and Geometric Distortion and in other multi-cycles calibartion proposals
Category=CALIBRATION
Description=[ASTROMETRIC, SPATIAL DISTORTION TEST]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F606W	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F606W	FLASH=12	GS ACQ SCENARIO BASE1B3		60.0 Secs (60 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 17023, Visit 15 F606W (15), scheduling Tue Apr 25 20:00:20 GMT 2023

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 93D TO 93 D; BETWEEN 01-JUN-2023:00:00:00 AND 01-OCT-2023:00:00:00; SEQ 13,14,15 WITHIN 1.1 Orbits

Diagnostics

(F606W (15.001)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

Fixed Targets

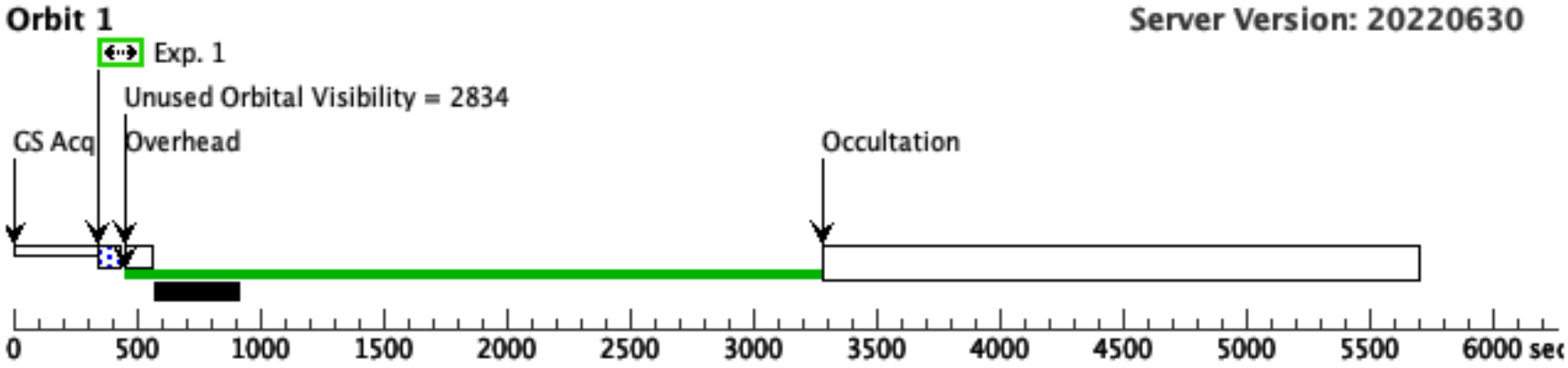
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	OMEGACEN	RA: 13 26 46.2800 (201.6928333d) Dec: -47 28 44.60 (-47.47906d) Equinox: J2000		V=16.8+/-0.1	Reference Frame: ICRS

Comments: This is the same target (and coordinates) as used in CAL/WFC3 11911, UVIS L-Flats and Geometric Distortion and in other multi-cycles calibartion proposals
Category=CALIBRATION
Description=[ASTROMETRIC, SPATIAL DISTORTION TEST]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F606W	(1) OMEGACEN	WFC3/UVIS, ACCUM, UVIS	F606W	FLASH=12	GS ACQ SCENARIO BASE1B3		60.0 Secs (60 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 17023, Visit 16 F160W (16), implementation Tue Apr 25 20:00:20 GMT 2023

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: PCS MODE FINE; ORIENT 94.5D TO 94.5 D; BETWEEN 01-JUL-2023:00:00:00 AND 01-OCT-2023:00:00:00; SEQ 16,17,18 WITHIN 1.1 Orbits

Fixed Targets

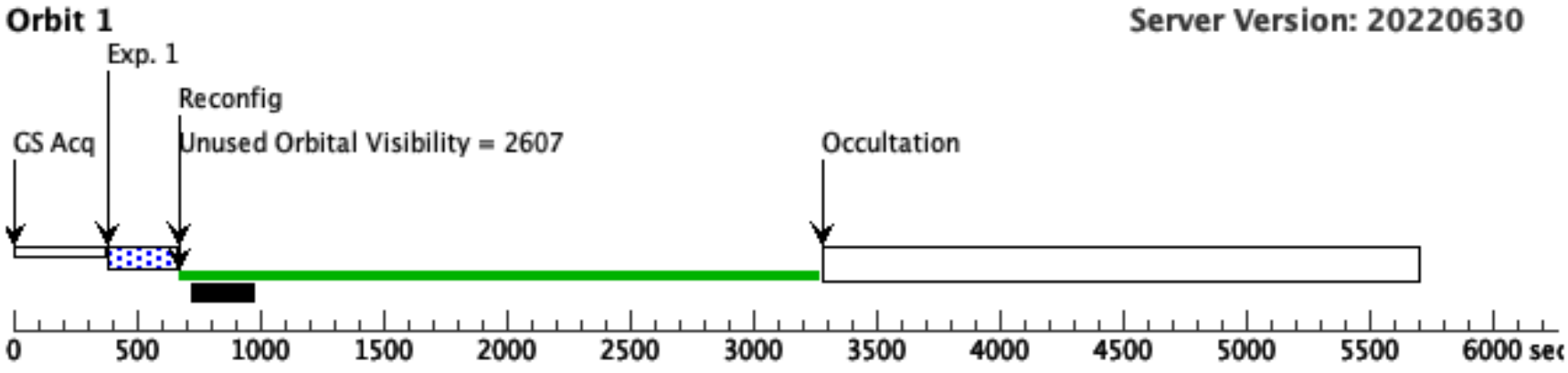
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	OMEGACEN	RA: 13 26 46.2800 (201.6928333d) Dec: -47 28 44.60 (-47.47906d) Equinox: J2000		V=16.8+/-0.1	Reference Frame: ICRS

Comments: This is the same target (and coordinates) as used in CAL/WFC3 11911, UVIS L-Flats and Geometric Distortion and in other multi-cycles calibartion proposals
Category=CALIBRATION
Description=[ASTROMETRIC, SPATIAL DISTORTION TEST]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F160W	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS25; NSAMP=11	EXP PCS MODE FINE; GS ACQ SCENARIO BASE1B3		252.937441 Secs (252.937 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 17023, Visit 17 F160W (17), implementation Tue Apr 25 20:00:20 GMT 2023

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: PCS MODE FINE; ORIENT 96D TO 96 D; BETWEEN 01-JUL-2023:00:00:00 AND 01-OCT-2023:00:00:00; SEQ 16,17,18 WITHIN 1.1 Orbits

Fixed Targets

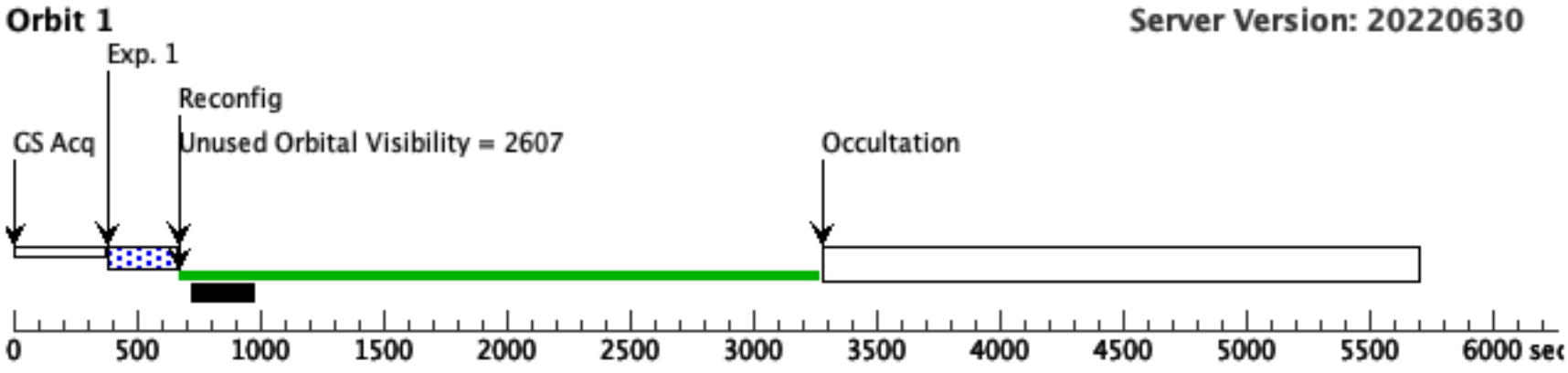
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	OMEGACEN	RA: 13 26 46.2800 (201.6928333d) Dec: -47 28 44.60 (-47.47906d) Equinox: J2000		V=16.8+/-0.1	Reference Frame: ICRS

Comments: This is the same target (and coordinates) as used in CAL/WFC3 11911, UVIS L-Flats and Geometric Distortion and in other multi-cycles calibartion proposals
Category=CALIBRATION
Description=[ASTROMETRIC, SPATIAL DISTORTION TEST]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F160W	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS25; NSAMP=11	EXP PCS MODE FINE; GS ACQ SCENARIO BASE1B3		252.937441 Secs (252.937 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 17023, Visit 18 F160W (18), implementation Tue Apr 25 20:00:20 GMT 2023

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: PCS MODE FINE; ORIENT 97.5D TO 97.5 D; BETWEEN 01-JUL-2023:00:00:00 AND 01-OCT-2023:00:00:00; SEQ 16,17,18 WITHIN 1.1 Orbits

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+/-0.1	Reference Frame: ICRS

Comments: This is the same target (and coordinates) as used in CAL/WFC3 11911, UVIS L-Flats and Geometric Distortion and in other multi-cycles calibartion proposals
Category=CALIBRATION
Description=[ASTROMETRIC, SPATIAL DISTORTION TEST]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F160W	(1) OMEGACEN	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS25; NSAMP=11	EXP PCS MODE FINE; GS ACQ SCENARIO BASE1B3		252.937441 Secs (252.937 Secs) *[==>]*	*[1]*

Orbit Structure