17836 - A 3-Epoch Time-Lapse Movie of the Kinematics Across the Carina Nebula

Cycle: 32, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

Name	*Institution*
Dr. Nathan Smith (PI) (Contact)	**University of Arizona**
Dr. Megan Reiter (CoI)	Rice University
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VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) N3372-TR15	ACS/WFC WFC3/UVIS	1	15-Jun-2026 11:00:19.0	yes
02	(3) N3372-POS20	ACS/WFC WFC3/UVIS	2	15-Jun-2026 11:00:21.0	yes
03	(4) N3372-POS21	ACS/WFC WFC3/UVIS	1	15-Jun-2026 11:00:22.0	yes
04	(5) N3372-POS22	ACS/WFC WFC3/UVIS	1	15-Jun-2026 11:00:23.0	yes
05	(6) N3372-POS24	ACS/WFC WFC3/UVIS	1	15-Jun-2026 11:00:23.0	yes
06	(7) N3372-POS25	ACS/WFC WFC3/UVIS	1	15-Jun-2026 11:00:24.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
07	(8) N3372-POS26	ACS/WFC WFC3/UVIS	2	15-Jun-2026 11:00:25.0	yes
08	(9) N3372-POS27	ACS/WFC WFC3/UVIS	1	15-Jun-2026 11:00:26.0	yes
09	(11) N3372-POS30	ACS/WFC WFC3/UVIS	1	15-Jun-2026 11:00:27.0	yes
13	(11) N3372-POS30	ACS/WFC WFC3/UVIS	1	15-Jun-2026 11:00:28.0	yes
10	(2) N3372-POS19	ACS/WFC WFC3/UVIS	1	15-Jun-2026 11:00:29.0	yes
11	(12) N3372-POS29	ACS/WFC WFC3/UVIS	2	15-Jun-2026 11:00:30.0	yes
12	(10) N3372-POS28	ACS/WFC WFC3/UVIS	1	15-Jun-2026 11:00:31.0	yes
14	(9) N3372-POS27 (10) N3372-POS28	ACS/WFC WFC3/UVIS	2	15-Jun-2026 11:00:32.0	yes

18 Total Orbits Used

ABSTRACT

A cycle 13 ACS H-alpha imaging survey of the Carina Nebula covered 540 square arcminutes, concentrating on the two 2-3 Myr old central massive star clusters and several surrounding regions. This revealed dozens of protostellar outflows in a region thought to be devoid of active star formation. A 2nd epoch in cycle 21 allowed for the first proper motion (PM) estimates of such a large sample of irradiated jets, and roughly doubled the number of known jets identified via PM. Now we aim to add a 3rd epoch that will double the time baseline for PMs. In addition to improving the precision of PMs (1-2 km/s for point sources; 3 km/s for nebular features), these observations will achieve new goals not possible before: (1) For the first time, we will measure PM of edge-on ionization fronts at the cloud interface, including dust pillars, globules, and filaments. This will directly measure the impact of massive star feedback and will test otherwise ambiguous scenarios of triggered star formation. (2) We will measure PMs of previously discovered jets, but will push this to lower velocities or higher precision, will improve dynamical ages, and will identify many more outflows, thus completing the census of their mass-loss histories. (3) For faster jets, 3 epochs will reveal hydrodynamic evolution and deceleration of the shock

fronts, critical for quantifying the mass-loss history. (4) While Gaia provides PMs for brighter stars, this H-alpha survey will measure PMs and H-alpha flux variability for low-mass pre-main-sequence stars (i.e. T Tauri stars) that are too faint for Gaia. This will yield the most complete census of stellar and gas dynamics in a massive OB association.

OBSERVING DESCRIPTION

These ACS/WFC primary exposures in the F658N filter are meant to duplicate, as closely as possible, previous observations made in Cycles 13/14 amd 21/22 for the goal of measuring proper motions of both stars and nebular features. Each position is an individual visit using 1 CVZ orbit, and approximately the same dither pattern to cover the ACS chip gap and extend spatial coverage.

WFC3 parallel exposures (very limited because of buffer dumps) aim to extend the coverage in the F656N filter, or to use WFC3-IR where it overlaps with an ACS/WFC primary pointing. The roll angles are very tightly constrained in order to match as closely as possible the previous observations.

Visit

Proposal 17836, Visit 01, scheduled Mon Jun 15 15:00:33 GMT 2026

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: ORIENT 94D TO 96 D

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.146 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=47.17 Angle Between Sides= Center Pattern=false		(1), (2-3)

Fixed Targets

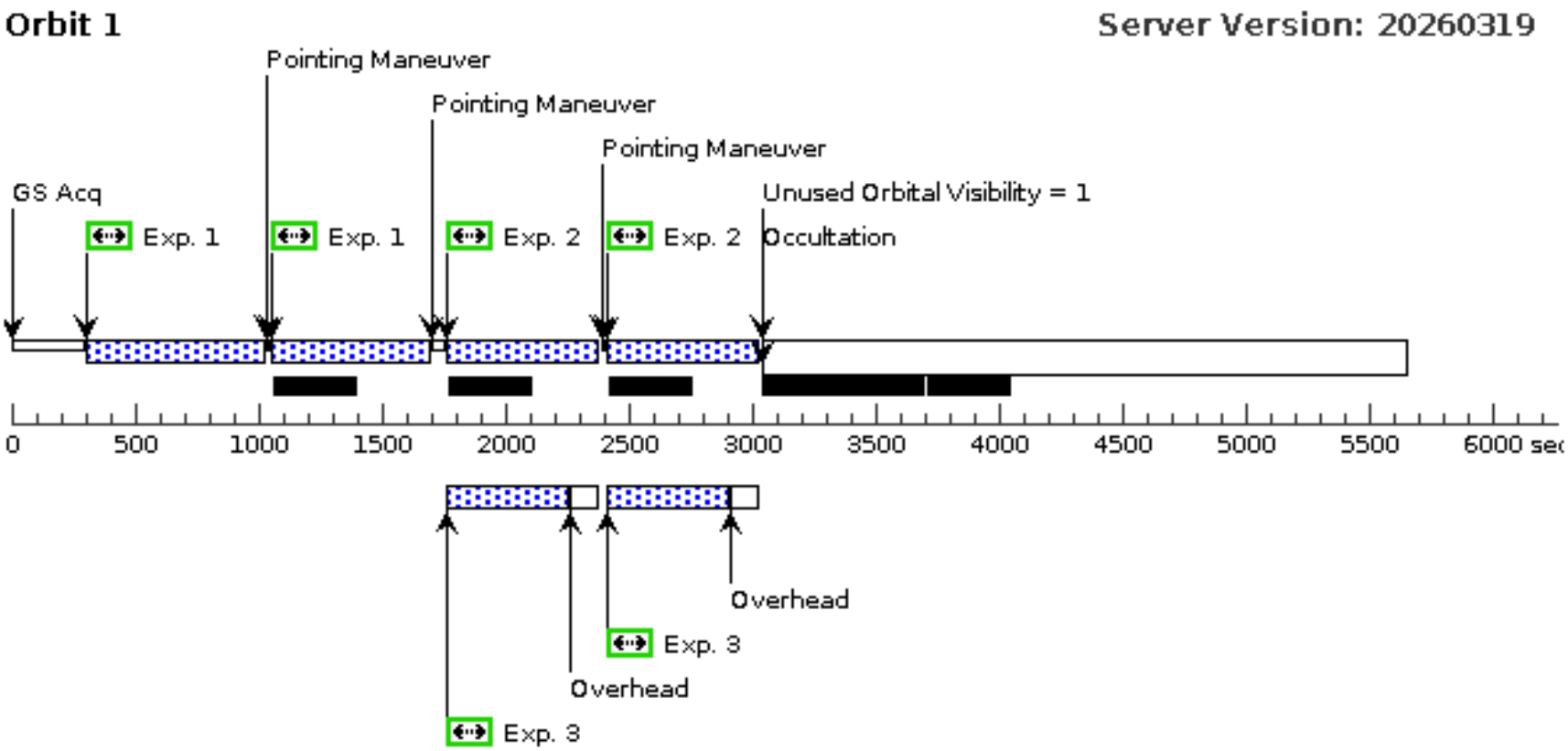
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	N3372-TR15	RA: 10 44 57.0000 (161.2375000d) Dec: -59 27 4.00 (-59.45111d) Equinox: J2000		V=10.0	Reference Frame: ICRS

Comments:
Category=ISM
Description=[HII REGION]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) N3372-TR15	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 0.0,0.0	Pattern 2, Exps 1-1 in Visit 01 (2)	460.0 Secs (1026 Secs) *[==>513.0 Secs (Pattern 1)]* *[==>513.0 Secs (Pattern 2)]*	***[1]***
2		(1) N3372-TR15	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 0.0,96.816; GS ACQ SCENARIO ONEB1O3	Pattern 2, Exps 2-3 in Visit 01 (2) Prime + Parallel Group 2-3 in Pattern 2, Exps 2-3 in Visit 01	460.0 Secs (982 Secs) *[==>491.0 Secs (Pattern 1)]* *[==>491.0 Secs (Pattern 2)]*	***[1]***
3		(1) N3372-TR15	WFC3/UVIS, ACCUM, UVIS	F656N	FLASH=16		Pattern 2, Exps 2-3 in Visit 01 (2) Prime + Parallel Group 2-3 in Pattern 2, Exps 2-3 in Visit 01	440.0 Secs (950 Secs) *[==>460.0 Secs (Pattern 1)]* *[==>490.0 Secs (Pattern 2)]*	***[1]***

Orbit Structure



Visit

Proposal 17836, Visit 02, scheduling Mon Jun 15 15:00:33 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: ORIENT 187D TO 189 D

Diagnostics

(Visit 02) Warning (Orbit Planner): INVALID GS ACQ SCENARIO SPECIAL REQUIREMENT

(Visit 02) Warning (Orbit Planner): PATTERN POSITION OUTSIDE APERTURE

(Visit 02) Warning (Orbit Planner): PATTERN POSITION OUTSIDE APERTURE

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.146 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=47.17 Angle Between Sides= Center Pattern=false		(1), (2-3), (4), (5-6)

Fixed Targets

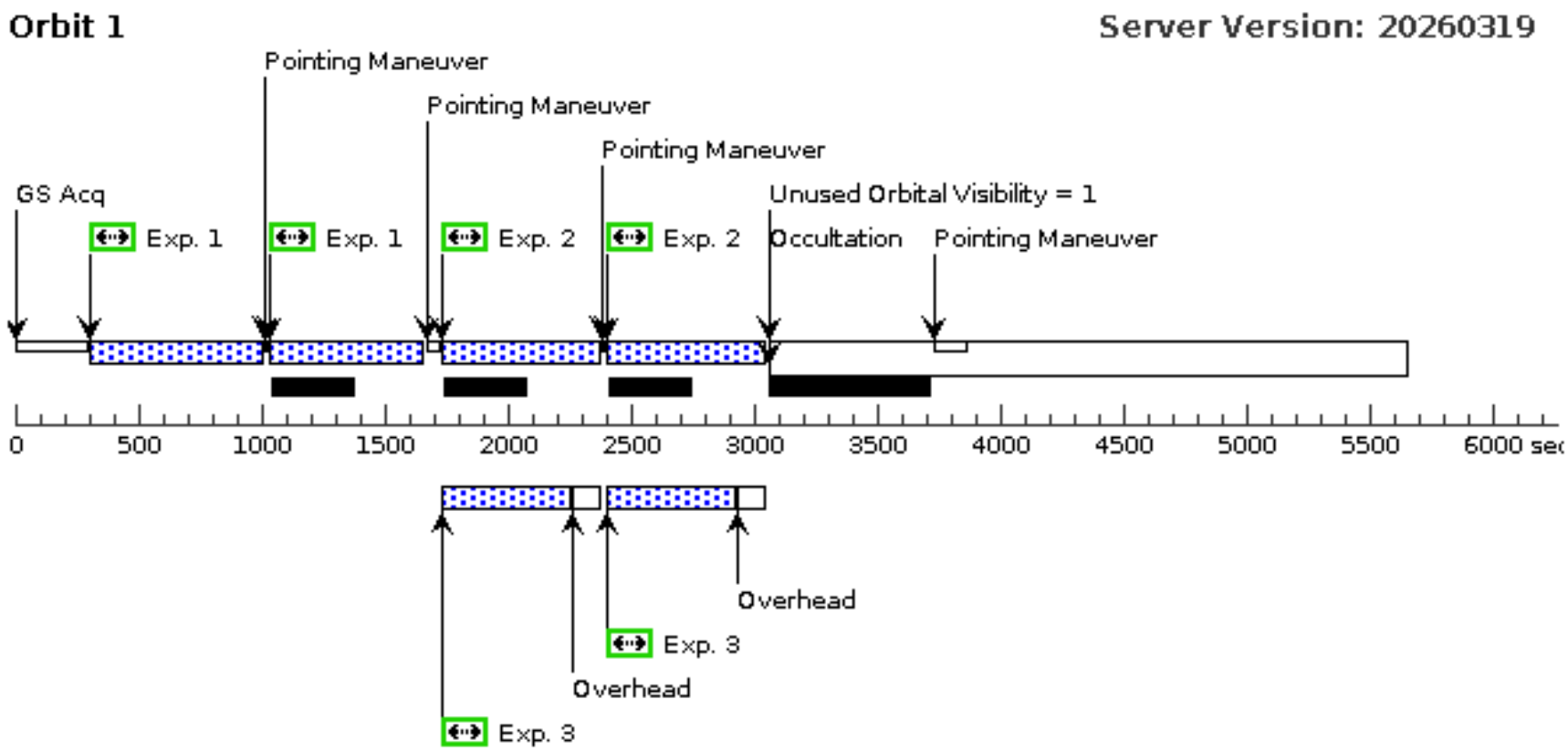
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	N3372-POS20	RA: 10 47 1.0000 (161.7541667d) Dec: -60 03 0.00 (-60.05000d) Equinox: J2000		V=10.0	Reference Frame: ICRS

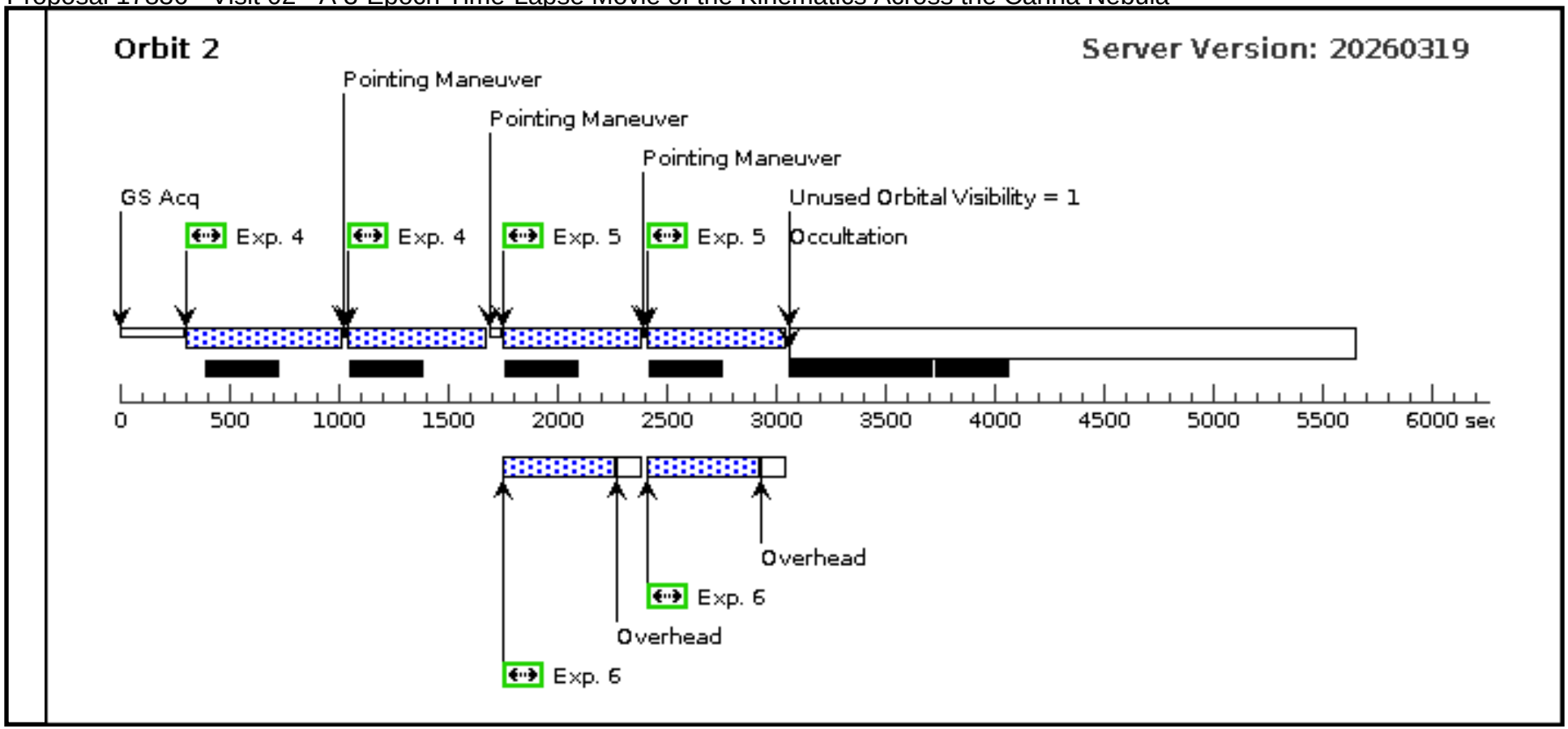
Comments:
Category=ISM
Description=[HII REGION]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(3) N3372-POS20	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 0,-387.2 ; GS ACQ SCENARIO ONEB1O3	Pattern 2, Exps 1-1 in Visit 02 (2)	440.0 Secs (994 Secs) *[==>497.0 Secs (Pattern 1)]* *[==>497.0 Secs (Pattern 2)]*	***[1]***
2		(3) N3372-POS20	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 0,-290.4 ; GS ACQ SCENARIO ONEB1O3	Pattern 2, Exps 2-3 in Visit 02 (2) Prime + Parallel Group 2-3 in Pattern 2, Exps 2-3 in Visit 02	460.0 Secs (1034 Secs) *[==>517.0 Secs (Pattern 1)]* *[==>517.0 Secs (Pattern 2)]*	***[1]***
3		(3) N3372-POS20	WFC3/UVIS, ACCUM, UVIS	F656N	FLASH=20		Pattern 2, Exps 2-3 in Visit 02 (2) Prime + Parallel Group 2-3 in Pattern 2, Exps 2-3 in Visit 02	440.0 Secs (1004 Secs) *[==>486.0 Secs (Pattern 1)]* *[==>518.0 Secs (Pattern 2)]*	***[1]***
4		(3) N3372-POS20	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 0,-96.8	Pattern 2, Exps 4-4 in Visit 02 (2)	440.0 Secs (1014 Secs) *[==>507.0 Secs (Pattern 1)]* *[==>507.0 Secs (Pattern 2)]*	***[2]***
5		(3) N3372-POS20	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 0.0,0; GS ACQ SCENARIO ONEB1O3	Pattern 2, Exps 5-6 in Visit 02 (2) Prime + Parallel Group 5-6 in Pattern 2, Exps 5-6 in Visit 02	440.0 Secs (1014 Secs) *[==>507.0 Secs (Pattern 1)]* *[==>507.0 Secs (Pattern 2)]*	***[2]***
6		(3) N3372-POS20	WFC3/UVIS, ACCUM, UVIS	F656N	FLASH=20		Pattern 2, Exps 5-6 in Visit 02 (2) Prime + Parallel Group 5-6 in Pattern 2, Exps 5-6 in Visit 02	440 Secs (984 Secs) *[==>476.0 Secs (Pattern 1)]* *[==>508.0 Secs (Pattern 2)]*	***[2]***

Orbit Structure

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Pointing Maneuver
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Exp. 5
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Occultation
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2000
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3000
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4000
4500
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6000 sec
Overhead
Exp. 6
Overhead
Exp. 6

Visit

Proposal 17836, Visit 03, scheduling Mon Jun 15 15:00:33 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: ORIENT 187D TO 189 D

Diagnostics

(Visit 03) Warning (Orbit Planner): INVALID GS ACQ SCENARIO SPECIAL REQUIREMENT

(Visit 03) Warning (Orbit Planner): PATTERN POSITION OUTSIDE APERTURE

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.146 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=47.17 Angle Between Sides= Center Pattern=false		(1), (2-3)

Fixed Targets

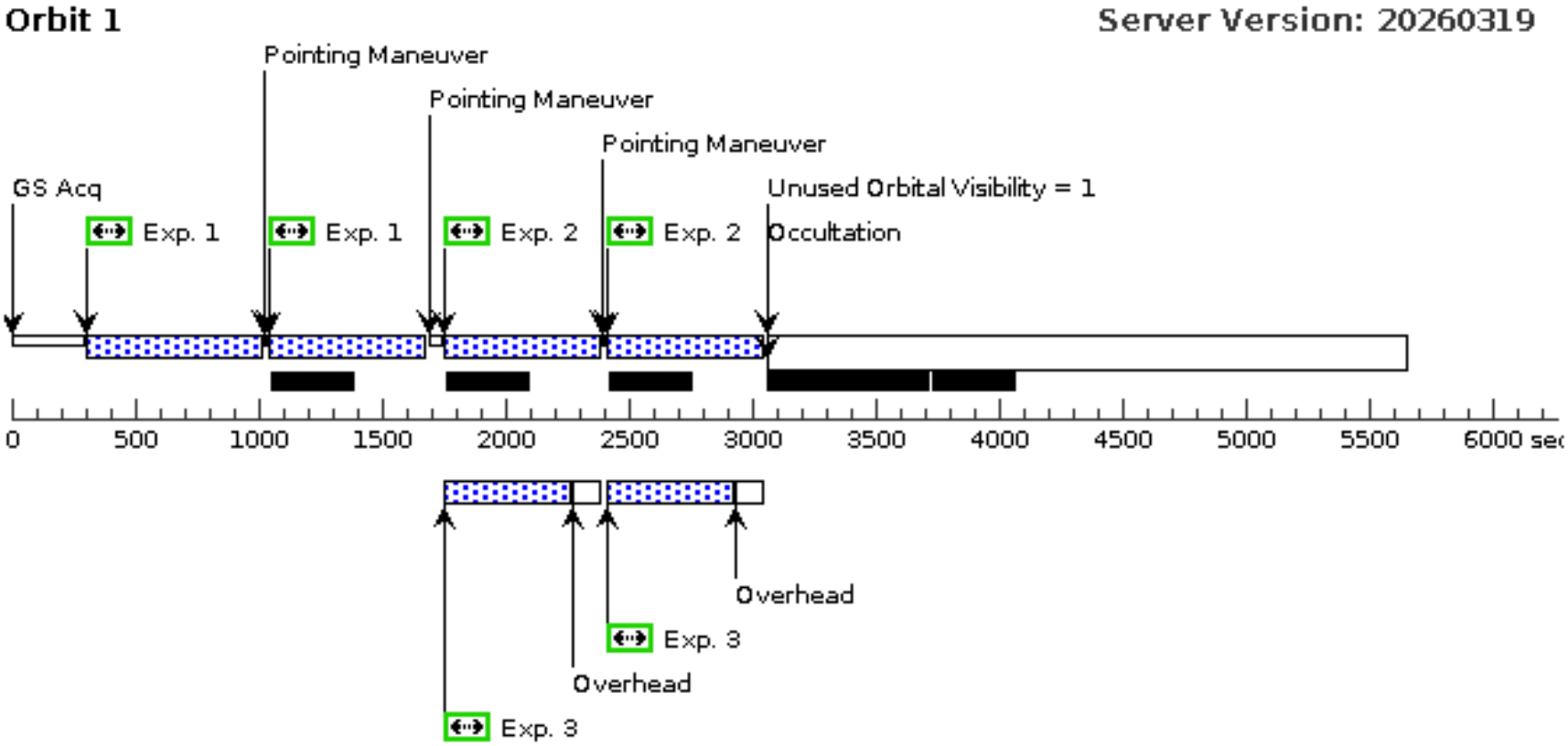
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	N3372-POS21	RA: 10 46 47.0000 (161.6958333d) Dec: -60 09 15.00 (-60.15417d) Equinox: J2000		V=10.0	Reference Frame: ICRS

Comments:
Category=ISM
Description=[HII REGION]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(4) N3372-POS21	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 0.0,-193.63; GS ACQ SCENARIO ONEB1O3	Pattern 2, Exps 1-1 in Visit 03 (2)	455.0 Secs (1014 Secs) *[==>507.0 Secs (Pattern 1)]* *[==>507.0 Secs (Pattern 2)]*	***[1]***
2		(4) N3372-POS21	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 0.0,-96.816; GS ACQ SCENARIO ONEB1O3	Pattern 2, Exps 2-3 in Visit 03 (2) Prime + Parallel Group 2-3 in Pattern 2, Exps 2-3 in Visit 03	455.0 Secs (1014 Secs) *[==>507.0 Secs (Pattern 1)]* *[==>507.0 Secs (Pattern 2)]*	***[1]***
3		(4) N3372-POS21	WFC3/UVIS, ACCUM, UVIS	F656N	FLASH=20		Pattern 2, Exps 2-3 in Visit 03 (2) Prime + Parallel Group 2-3 in Pattern 2, Exps 2-3 in Visit 03	428.0 Secs (984 Secs) *[==>476.0 Secs (Pattern 1)]* *[==>508.0 Secs (Pattern 2)]*	***[1]***

Orbit Structure



Visit

Proposal 17836, Visit 04, implementation Mon Jun 15 15:00:33 GMT 2026

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: ORIENT 187D TO 189 D

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.146 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=47.17 Angle Between Sides= Center Pattern=false		(1), (2-3)

Fixed Targets

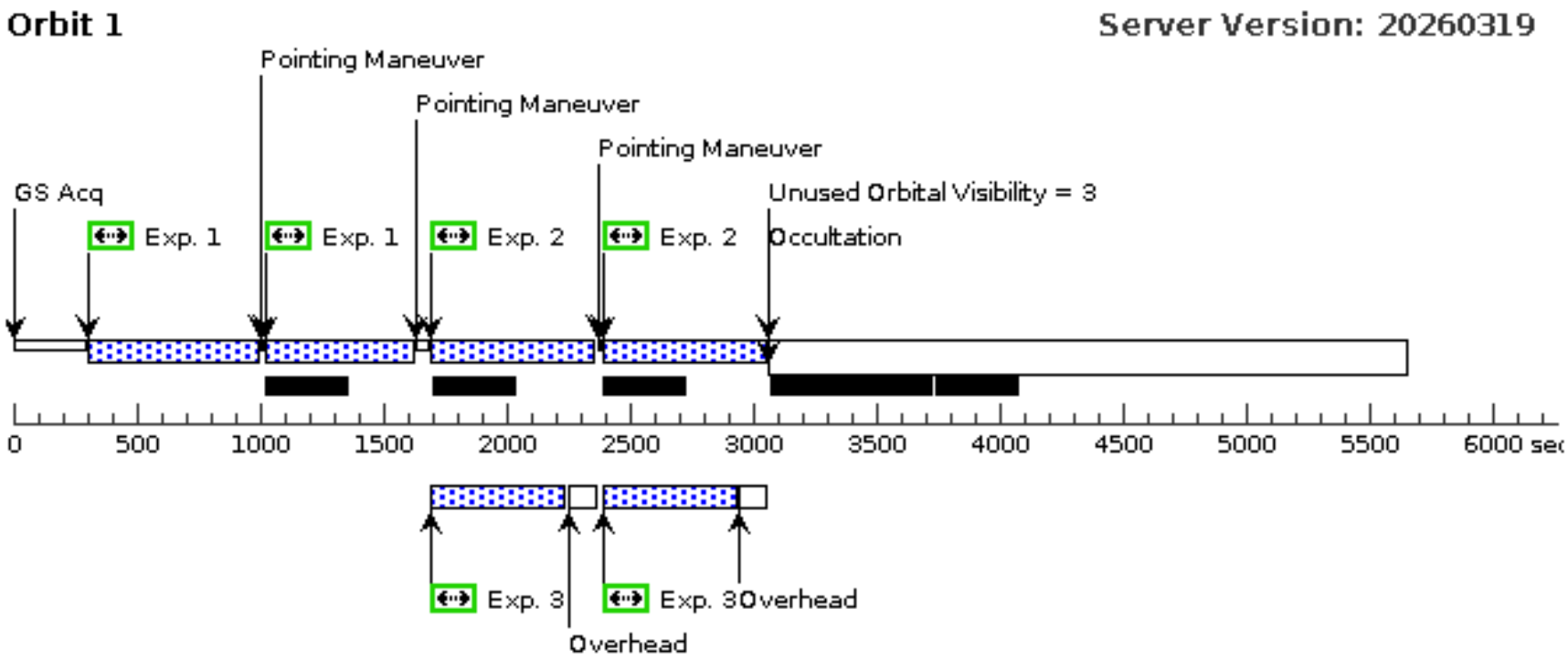
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	N3372-POS22	RA: 10 46 32.0000 (161.6333333d) Dec: -60 05 0.00 (-60.08333d) Equinox: J2000		V=10.0	Reference Frame: ICRS

Comments:
Category=ISM
Description=[HII REGION]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(5) N3372-POS22	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 0,-96.8	Pattern 2, Exps 1-1 in Visit 04 (2)	560.0 Secs (960 Secs) *[==>480.0 Secs (Pattern 1)]* *[==>480.0 Secs (Pattern 2)]*	***[1]***
2		(5) N3372-POS22	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 0.0,0; GS ACQ SCENARIO ONEB1O3	Pattern 2, Exps 2-3 in Visit 04 (2) Prime + Parallel Group 2-3 in Pattern 2, Exps 2-3 in Visit 04	560.0 Secs (1066 Secs) *[==>533.0 Secs (Pattern 1)]* *[==>533.0 Secs (Pattern 2)]*	***[1]***
3		(5) N3372-POS22	WFC3/UVIS, ACCUM, UVIS	F656N	FLASH=20		Pattern 2, Exps 2-3 in Visit 04 (2) Prime + Parallel Group 2-3 in Pattern 2, Exps 2-3 in Visit 04	420 Secs (1054 Secs) *[==>511.0 Secs (Pattern 1)]* *[==>543.0 Secs (Pattern 2)]*	***[1]***

Orbit Structure



Visit

Proposal 17836, Visit 05, implementation Mon Jun 15 15:00:33 GMT 2026

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: ORIENT 187D TO 189 D

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.146 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=47.17 Angle Between Sides= Center Pattern=false		(1), (2-3)

Fixed Targets

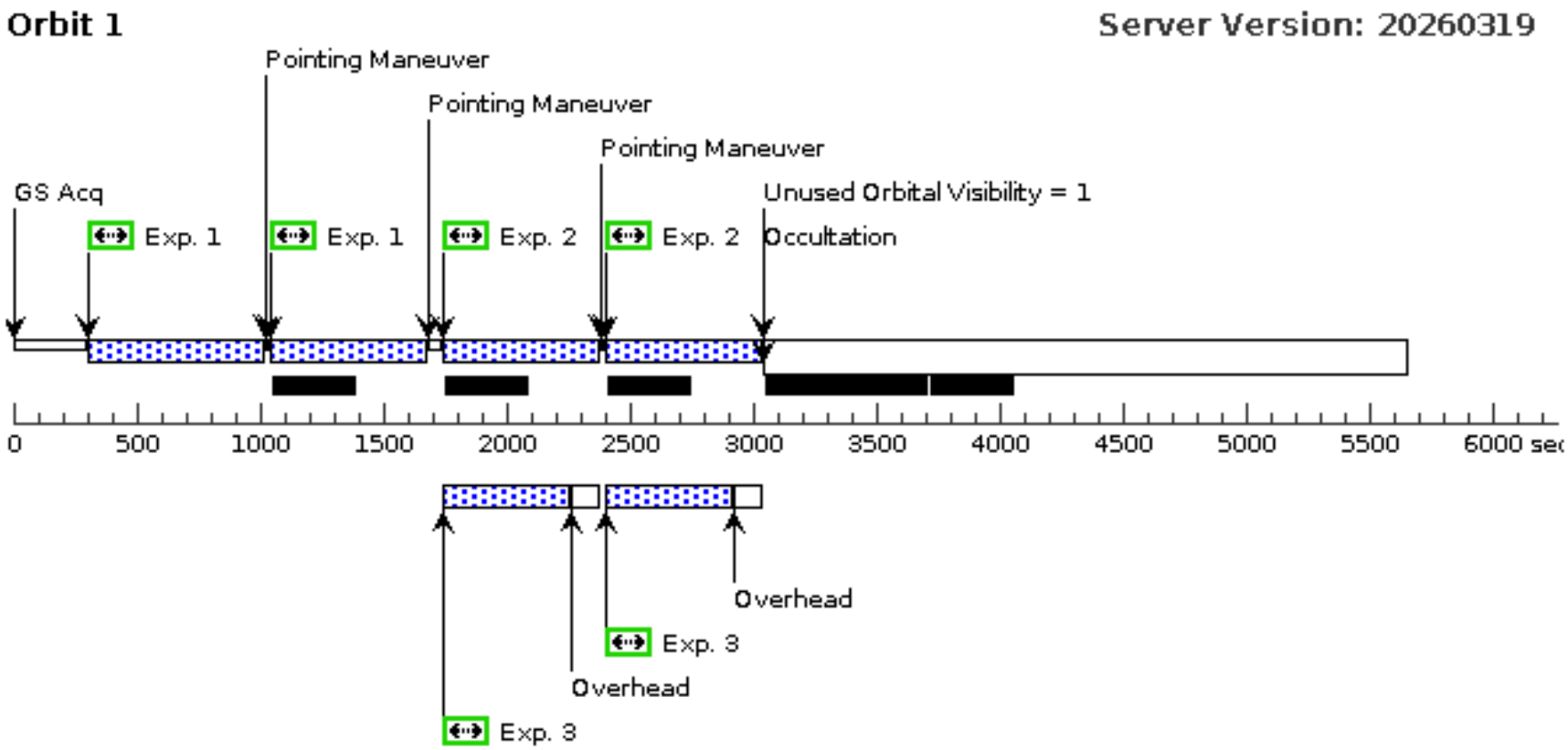
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	N3372-POS24 Alt Name1: TREASURE-CHEST Alt Name2: CPD-592661	RA: 10 45 53.0000 (161.4708333d) Dec: -59 57 4.00 (-59.95111d) Equinox: J2000		V=10.0	Reference Frame: ICRS

Comments:
Category=ISM
Description=[HII REGION]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(6) N3372-POS24	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 0,0	Pattern 2, Exps 1-1 in Visit 05 (2)	560.0 Secs (1004 Secs) *[==>502.0 Secs (Pattern 1)]* *[==>502.0 Secs (Pattern 2)]*	***[1]***
2		(6) N3372-POS24	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 0.0,-96.816; GS ACQ SCENARIO ONEB1O3	Pattern 2, Exps 2-3 in Visit 05 (2) Prime + Parallel Group 2-3 in Pattern 2, Exps 2-3 in Visit 05	560.0 Secs (1004 Secs) *[==>502.0 Secs (Pattern 1)]* *[==>502.0 Secs (Pattern 2)]*	***[1]***
3		(6) N3372-POS24	WFC3/UVIS, ACCUM, UVIS	F673N	FLASH=20		Pattern 2, Exps 2-3 in Visit 05 (2) Prime + Parallel Group 2-3 in Pattern 2, Exps 2-3 in Visit 05	420 Secs (992 Secs) *[==>480.0 Secs (Pattern 1)]* *[==>512.0 Secs (Pattern 2)]*	***[1]***

Orbit Structure



Visit

Proposal 17836, Visit 06, implementation Mon Jun 15 15:00:33 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: ORIENT 187D TO 190.0 D

Diagnostics

(Visit 06) Warning (Orbit Planner): PATTERN POSITION OUTSIDE APERTURE

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.146 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=47.17 Angle Between Sides= Center Pattern=false		(1), (2-3)

Fixed Targets

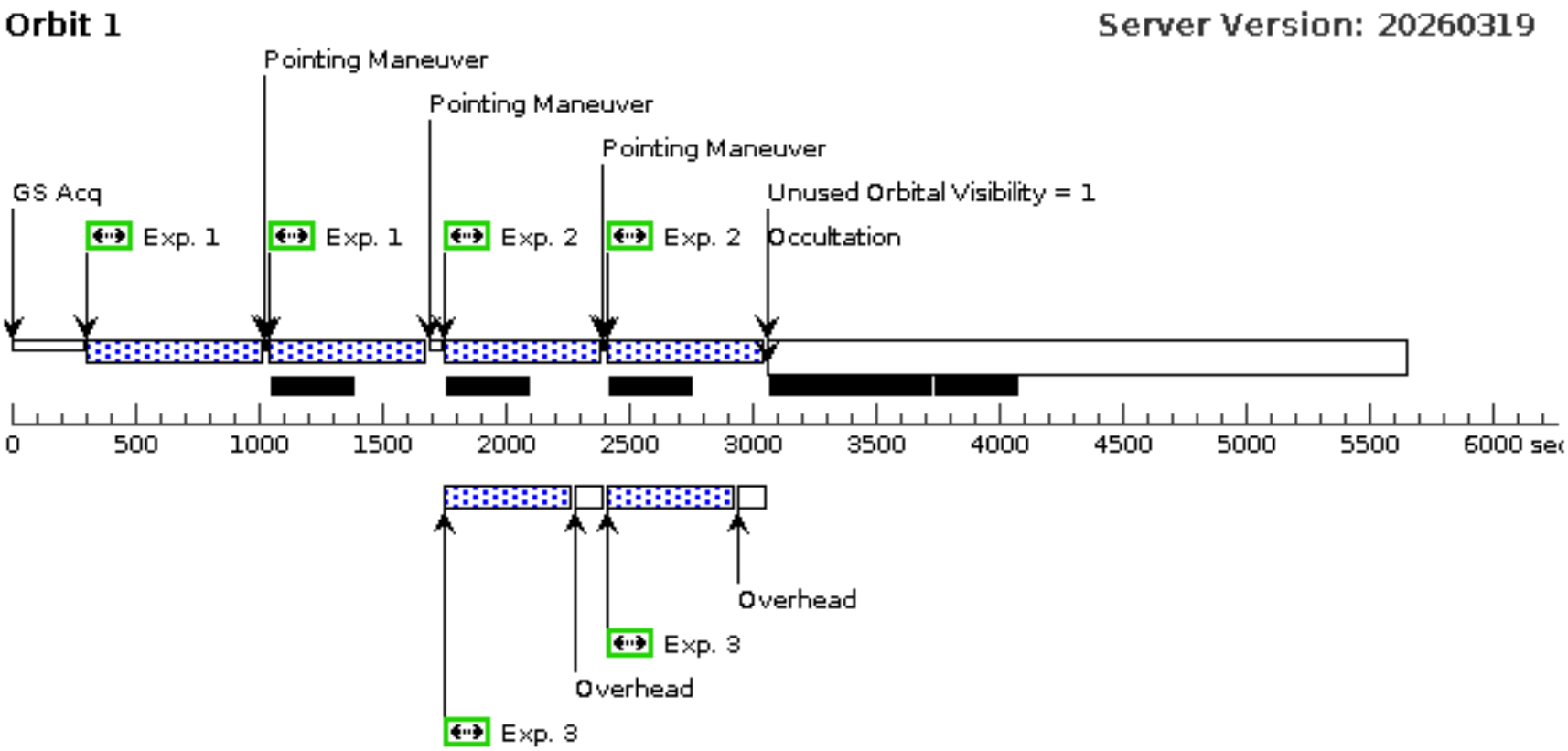
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(7)	N3372-POS25	RA: 10 44 36.0000 (161.1500000d) Dec: -60 25 10.00 (-60.41944d) Equinox: J2000		V=10.0	Reference Frame: ICRS

Comments:
Category=ISM
Description=[HII REGION]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(7) N3372-POS25	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 0,178.816; GS ACQ SCENARIO ONEB1O3	Pattern 2, Exps 1-1 in Visit 06 (2)	560.0 Secs (1014 Secs) *[==>507.0 Secs (Pattern 1)]* *[==>507.0 Secs (Pattern 2)]*	***[1]***
2		(7) N3372-POS25	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 0,80	Pattern 2, Exps 2-3 in Visit 06 (2) Prime + Parallel Group 2-3 in Pattern 2, Exps 2-3 in Visit 06	560.0 Secs (1014 Secs) *[==>507.0 Secs (Pattern 1)]* *[==>507.0 Secs (Pattern 2)]*	***[1]***
3		(7) N3372-POS25	WFC3/UVIS, ACCUM, UVIS	F656N	FLASH=20		Pattern 2, Exps 2-3 in Visit 06 (2) Prime + Parallel Group 2-3 in Pattern 2, Exps 2-3 in Visit 06	420 Secs (1002 Secs) *[==>485.0 Secs (Pattern 1)]* *[==>517.0 Secs (Pattern 2)]*	***[1]***

Orbit Structure



Visit

Proposal 17836, Visit 07, implementation Mon Jun 15 15:00:33 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: ORIENT 5D TO 7 D

Diagnostics

(Visit 07) Warning (Orbit Planner): PATTERN POSITION OUTSIDE APERTURE

(Visit 07) Warning (Orbit Planner): PATTERN POSITION OUTSIDE APERTURE

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.146 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=47.17 Angle Between Sides= Center Pattern=false		(1), (2-3), (4), (5-6)

Fixed Targets

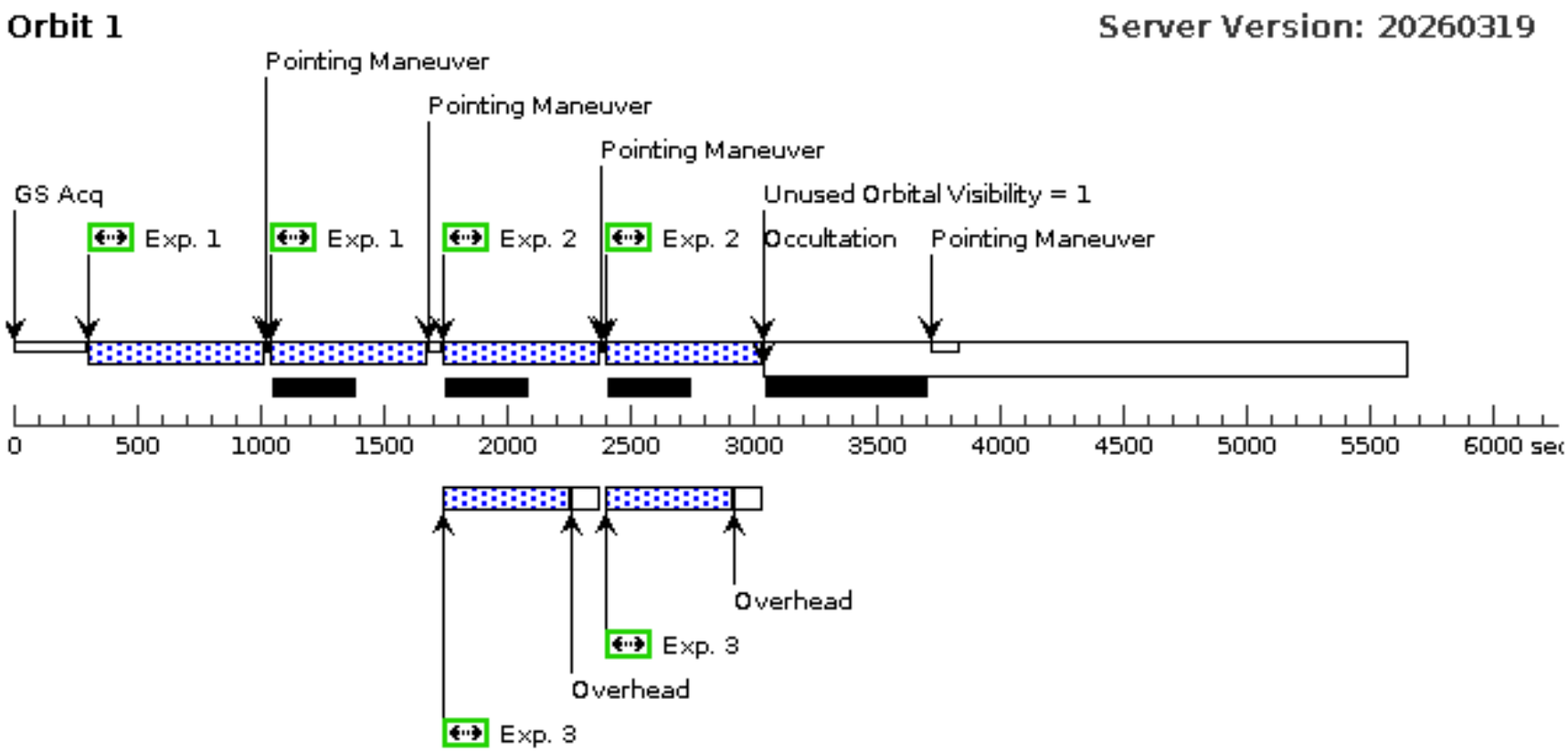
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(8)	N3372-POS26	RA: 10 45 15.5000 (161.3145833d) Dec: -59 58 25.00 (-59.97361d) Equinox: J2000		V=10.0	Reference Frame: ICRS

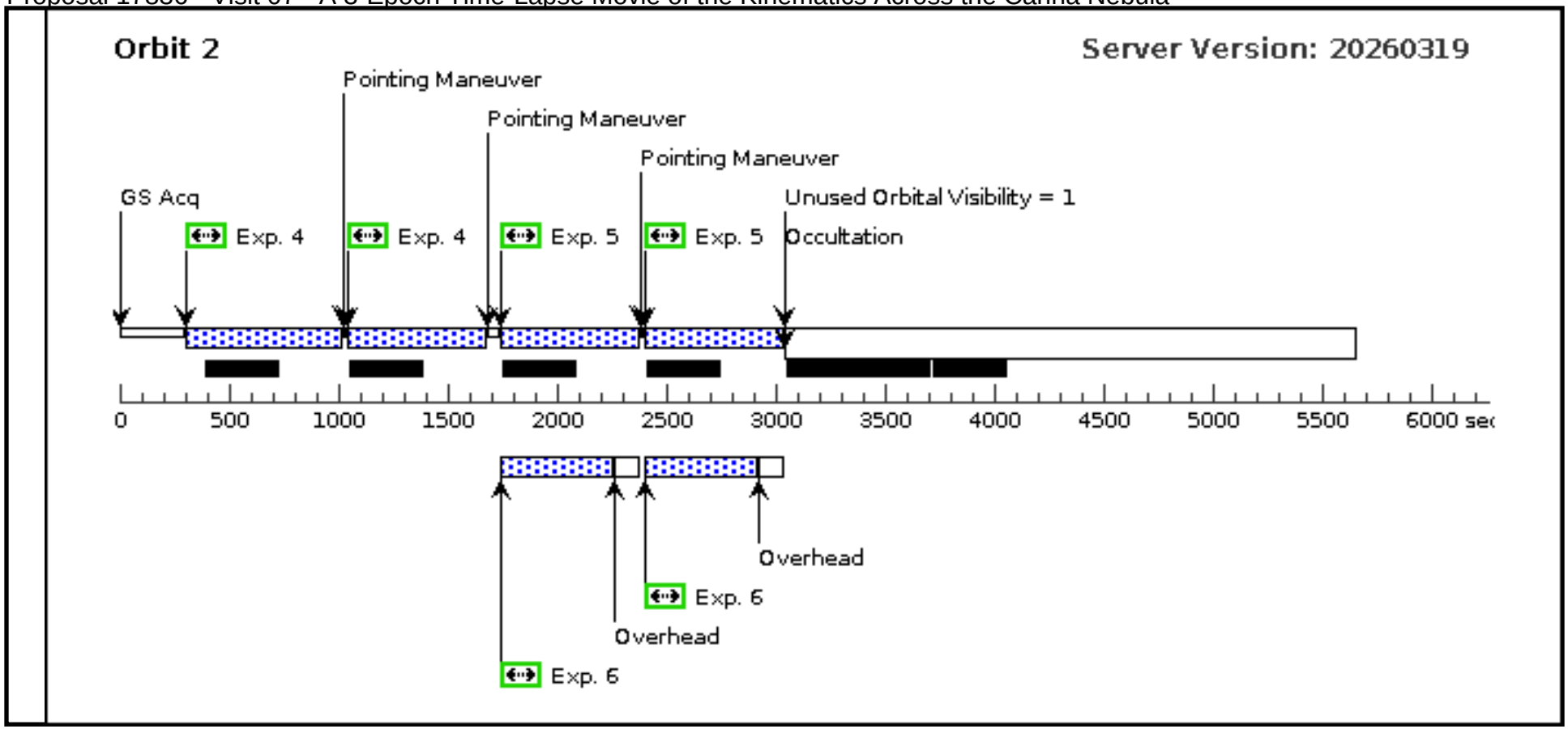
Comments:
Category=ISM
Description=[HII REGION]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(8) N3372-POS26	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 8.0,0.0; GS ACQ SCENARIO ONEB1O3	Pattern 2, Exps 1-1 in Visit 07 (2)	560.0 Secs (1004 Secs) *[==>502.0 Secs (Pattern 1)]* *[==>502.0 Secs (Pattern 2)]*	***[1]***
2		(8) N3372-POS26	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 8,96.816	Pattern 2, Exps 2-3 in Visit 07 (2) Prime + Parallel Group 2-3 in Pattern 2, Exps 2-3 in Visit 07	560.0 Secs (1004 Secs) *[==>502.0 Secs (Pattern 1)]* *[==>502.0 Secs (Pattern 2)]*	***[1]***
3		(8) N3372-POS26	WFC3/UVIS, ACCUM, UVIS	F673N	FLASH=20		Pattern 2, Exps 2-3 in Visit 07 (2) Prime + Parallel Group 2-3 in Pattern 2, Exps 2-3 in Visit 07	420 Secs (992 Secs) *[==>480.0 Secs (Pattern 1)]* *[==>512.0 Secs (Pattern 2)]*	***[1]***
4		(8) N3372-POS26	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 8,193.63 ; GS ACQ SCENARIO ONEB1O3	Pattern 2, Exps 4-4 in Visit 07 (2)	560.0 Secs (1004 Secs) *[==>502.0 Secs (Pattern 1)]* *[==>502.0 Secs (Pattern 2)]*	***[2]***
5		(8) N3372-POS26	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 8,290.448	Pattern 2, Exps 5-6 in Visit 07 (2) Prime + Parallel Group 5-6 in Pattern 2, Exps 5-6 in Visit 07	560.0 Secs (1004 Secs) *[==>502.0 Secs (Pattern 1)]* *[==>502.0 Secs (Pattern 2)]*	***[2]***
6		(8) N3372-POS26	WFC3/UVIS, ACCUM, UVIS	F673N	FLASH=20		Pattern 2, Exps 5-6 in Visit 07 (2) Prime + Parallel Group 5-6 in Pattern 2, Exps 5-6 in Visit 07	420 Secs (992 Secs) *[==>480.0 Secs (Pattern 1)]* *[==>512.0 Secs (Pattern 2)]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20260319
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
GS Acq
Exp. 4
Exp. 4
Exp. 5
Exp. 5
Occultation
Unused Orbital Visibility = 1
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec
Overhead
Exp. 6
Overhead
Exp. 6

Visit

Proposal 17836, Visit 08, implementation Mon Jun 15 15:00:34 GMT 2026

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: ORIENT 188D TO 189 D

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.146 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=47.17 Angle Between Sides= Center Pattern=false		(1), (2-3)

Fixed Targets

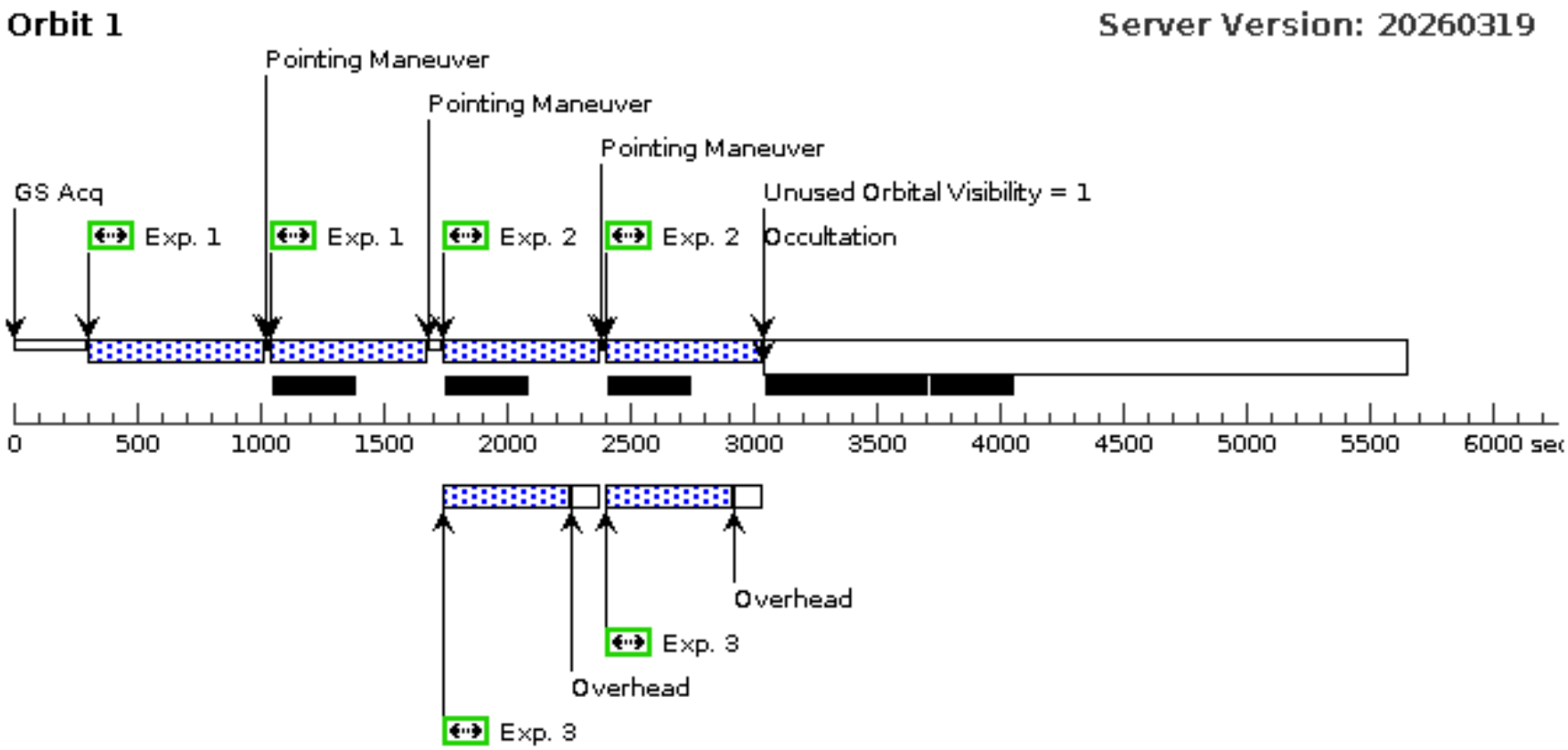
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(9)	N3372-POS27 Alt Name1: TEARDROP	RA: 10 44 43.0000 (161.1791667d) Dec: -59 56 20.00 (-59.93889d) Equinox: J2000		V=10.0	Reference Frame: ICRS

Comments:
Category=ISM
Description=[HII REGION]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(9) N3372-POS27	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 5,-96.816	Pattern 2, Exps 1-1 in Visit 08 (2)	560.0 Secs (1004 Secs) *[==>502.0 Secs (Pattern 1)]* *[==>502.0 Secs (Pattern 2)]*	***[1]***
2		(9) N3372-POS27	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 10,0; GS ACQ SCENARIO ONEB1O3	Pattern 2, Exps 2-3 in Visit 08 (2) Prime + Parallel Group 2-3 in Pattern 2, Exps 2-3 in Visit 08	560.0 Secs (1004 Secs) *[==>502.0 Secs (Pattern 1)]* *[==>502.0 Secs (Pattern 2)]*	***[1]***
3		(9) N3372-POS27	WFC3/UVIS, ACCUM, UVIS	F673N	FLASH=20		Pattern 2, Exps 2-3 in Visit 08 (2) Prime + Parallel Group 2-3 in Pattern 2, Exps 2-3 in Visit 08	420 Secs (992 Secs) *[==>480.0 Secs (Pattern 1)]* *[==>512.0 Secs (Pattern 2)]*	***[1]***

Orbit Structure



Visit

Proposal 17836, Visit 09, implementation Mon Jun 15 15:00:34 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: ORIENT 190D TO 191 D

Diagnostics

(Visit 09) Warning (Orbit Planner): PATTERN POSITION OUTSIDE APERTURE

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.146 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=47.17 Angle Between Sides= Center Pattern=false		(1), (2-3)

Fixed Targets

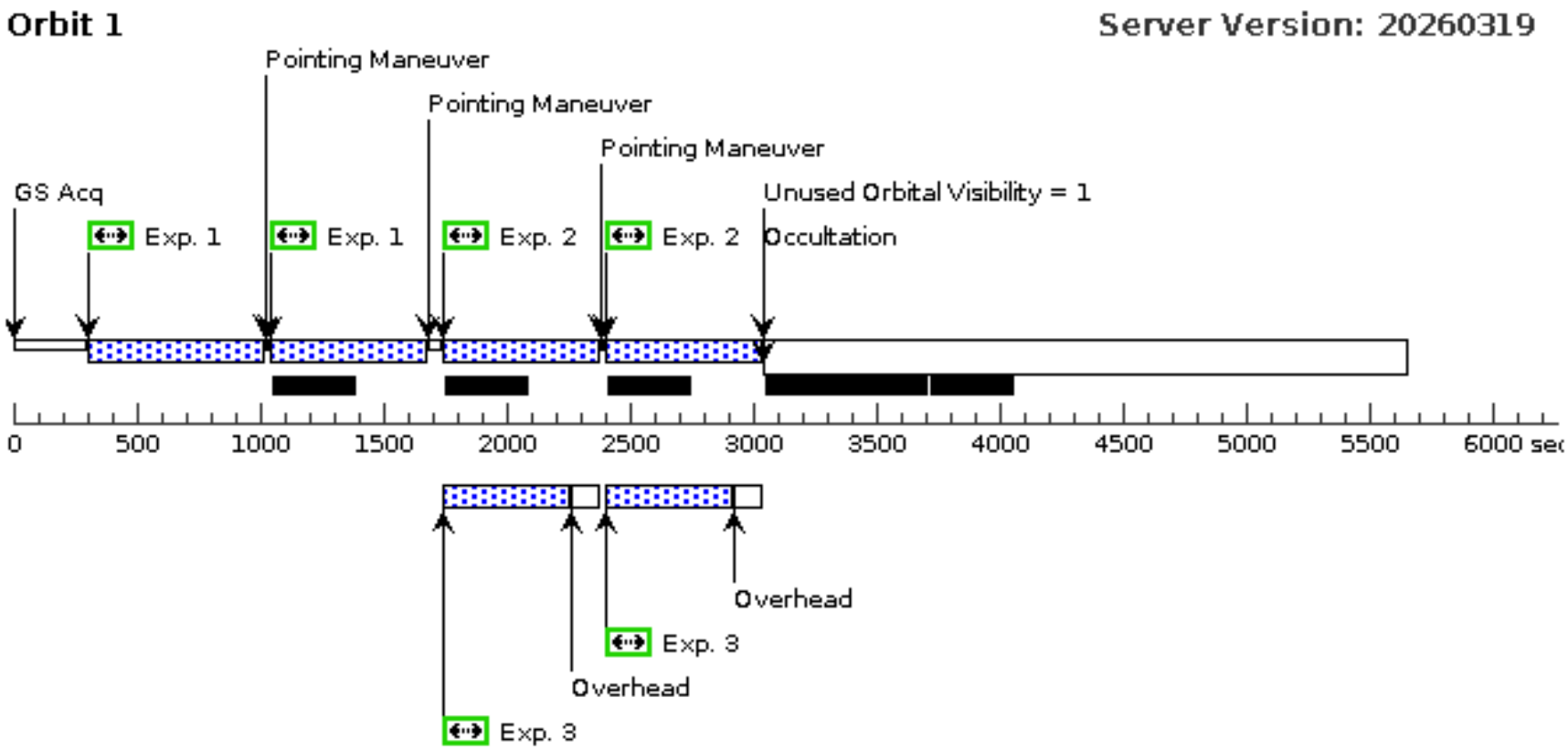
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(11)	N3372-POS30	RA: 10 41 38.0000 (160.4083333d) Dec: -59 46 30.00 (-59.77500d) Equinox: J2000		V=10.0	Reference Frame: ICRS

Comments:
Category=ISM
Description=[HII REGION]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(11) N3372-POS30	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 0.0,4	Pattern 2, Exps 1-1 in Visit 09 (2)	558.0 Secs (1004 Secs) *[==>502.0 Secs (Pattern 1)]* *[==>502.0 Secs (Pattern 2)]*	***[1]***
2		(11) N3372-POS30	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG -5,100.816; GS ACQ SCENARIO ONEB1O3	Pattern 2, Exps 2-3 in Visit 09 (2) Prime + Parallel Group 2-3 in Pattern 2, Exps 2-3 in Visit 09	558.0 Secs (1004 Secs) *[==>502.0 Secs (Pattern 1)]* *[==>502.0 Secs (Pattern 2)]*	***[1]***
3		(11) N3372-POS30	WFC3/UVIS, ACCUM, UVIS	F656N	FLASH=20		Pattern 2, Exps 2-3 in Visit 09 (2) Prime + Parallel Group 2-3 in Pattern 2, Exps 2-3 in Visit 09	420 Secs (992 Secs) *[==>480.0 Secs (Pattern 1)]* *[==>512.0 Secs (Pattern 2)]*	***[1]***

Orbit Structure



Visit

Proposal 17836, Visit 13, implementation Mon Jun 15 15:00:34 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: ORIENT 214D TO 216 D

Diagnostics

(Visit 13) Warning (Orbit Planner): INVALID GS ACQ SCENARIO SPECIAL REQUIREMENT

(Visit 13) Warning (Orbit Planner): PATTERN POSITION OUTSIDE APERTURE

(Visit 13) Warning (Orbit Planner): PATTERN POSITION OUTSIDE APERTURE

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.146 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=47.17 Angle Between Sides= Center Pattern=false		(1), (2-3)

Fixed Targets

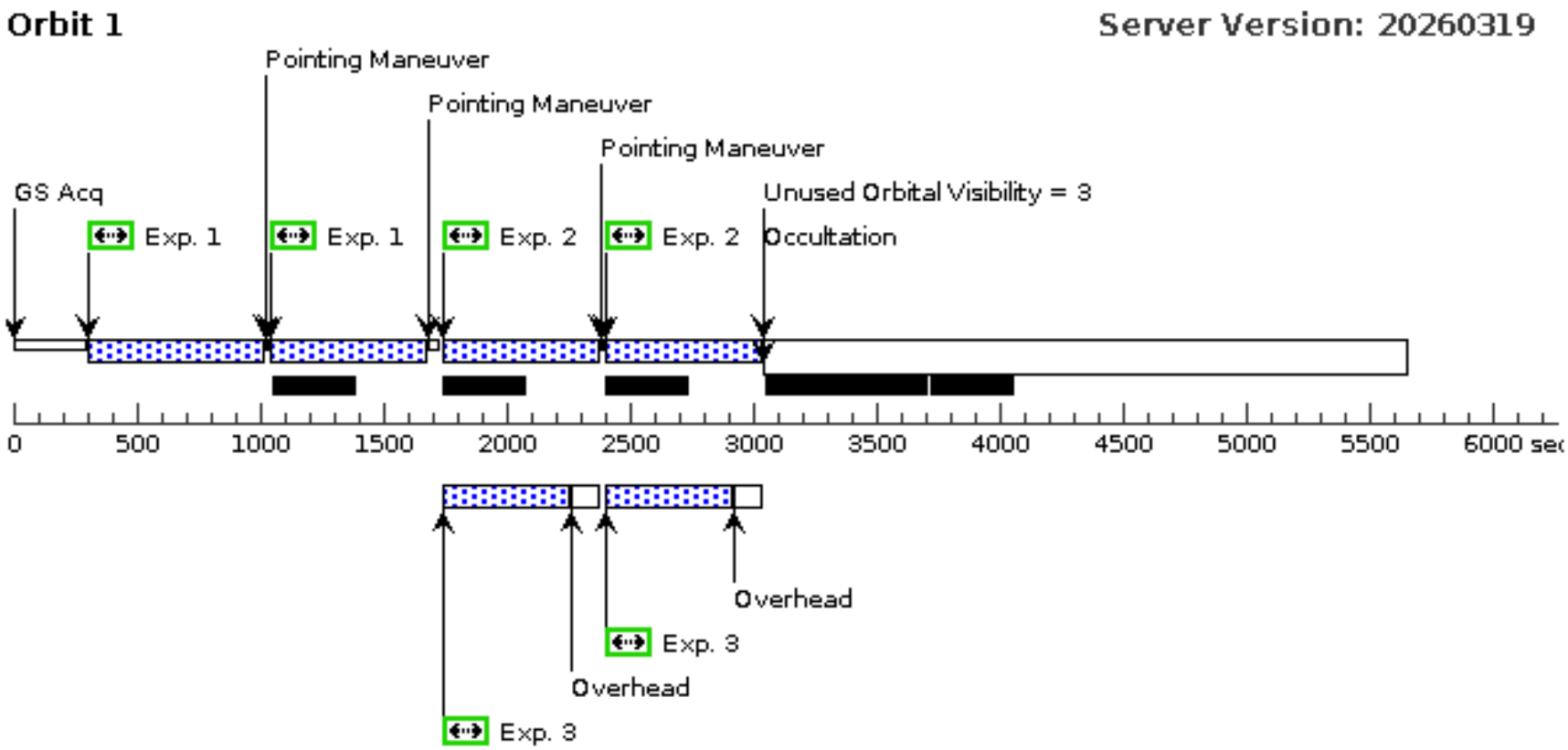
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(11)	N3372-POS30	RA: 10 41 38.0000 (160.4083333d) Dec: -59 46 30.00 (-59.77500d) Equinox: J2000		V=10.0	Reference Frame: ICRS

Comments:
Category=ISM
Description=[HII REGION]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(11) N3372-POS30	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 48,-144.816; GS ACQ SCENARIO ONEB1O3	Pattern 2, Exps 1-1 in Visit 13 (2)	558.0 Secs (1004 Secs) *[==>502.0 Secs (Pattern 1)]* *[==>502.0 Secs (Pattern 2)]*	***[1]***
2		(11) N3372-POS30	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 65,-231.632; GS ACQ SCENARIO ONEB1O3	Pattern 2, Exps 2-3 in Visit 13 (2) Prime + Parallel Group 2-3 in Pattern 2, Exps 2-3 in Visit 13	558.0 Secs (1004 Secs) *[==>502.0 Secs (Pattern 1)]* *[==>502.0 Secs (Pattern 2)]*	***[1]***
3		(11) N3372-POS30	WFC3/UVIS, ACCUM, UVIS	F656N	FLASH=20		Pattern 2, Exps 2-3 in Visit 13 (2) Prime + Parallel Group 2-3 in Pattern 2, Exps 2-3 in Visit 13	420 Secs (992 Secs) *[==>480.0 Secs (Pattern 1)]* *[==>512.0 Secs (Pattern 2)]*	***[1]***

Orbit Structure



Visit

Proposal 17836, Visit 10, implementation Mon Jun 15 15:00:34 GMT 2026

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: ORIENT 187D TO 189 D

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.146 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=47.17 Angle Between Sides= Center Pattern=false		(1), (2-3)

Fixed Targets

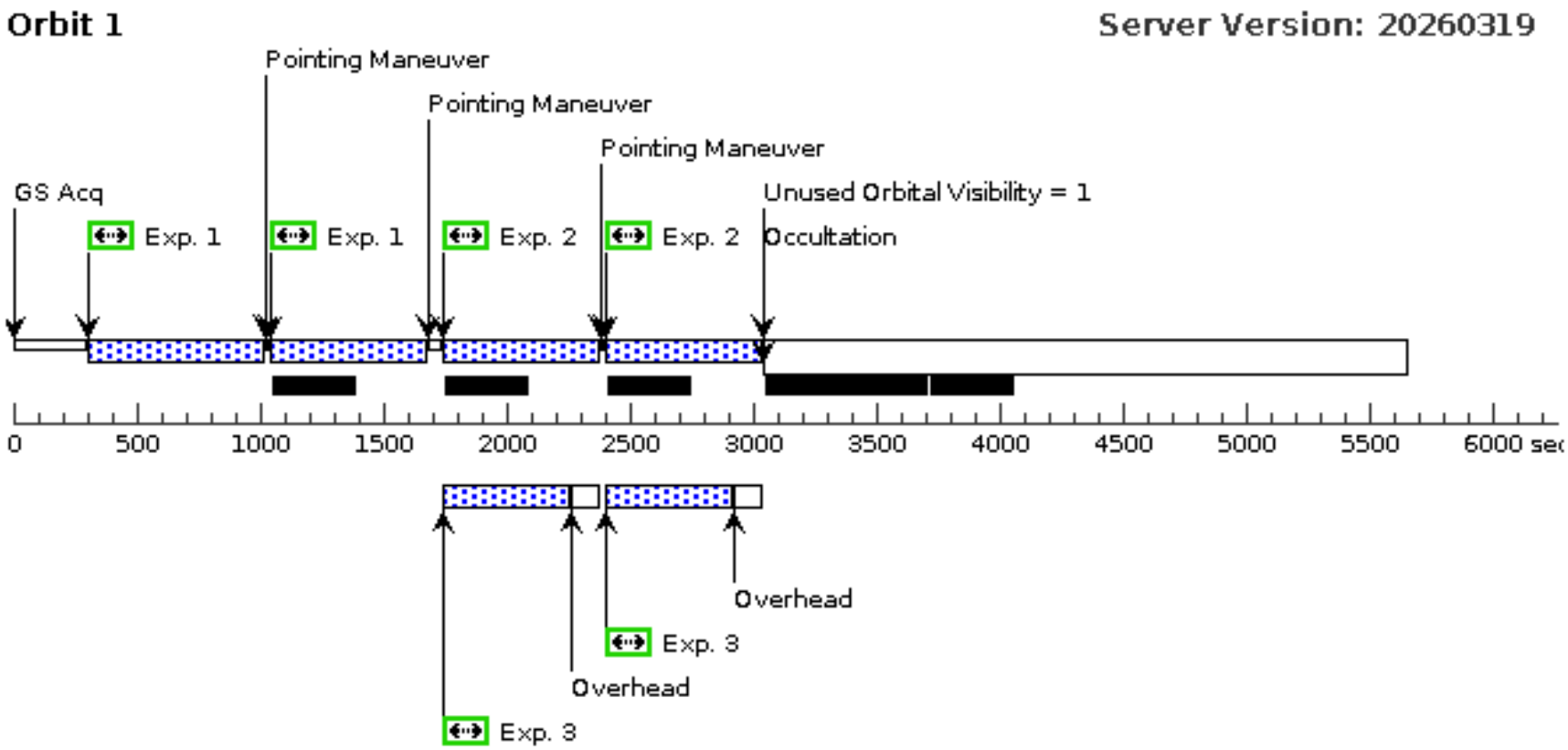
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	N3372-POS19	RA: 10 42 25.0000 (160.6041667d) Dec: -59 19 10.00 (-59.31944d) Equinox: J2000		V=10.0	Reference Frame: ICRS

Comments:
Category=ISM
Description=[HII REGION]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(2) N3372-POS19	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 0.0,-96.816; GS ACQ SCENARIO ONEB1O3	Pattern 2, Exps 1-1 in Visit 10 (2)	564.0 Secs (1004 Secs) *[==>502.0 Secs (Pattern 1)]* *[==>502.0 Secs (Pattern 2)]*	***[1]***
2		(2) N3372-POS19	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 0.0,0.0	Pattern 2, Exps 2-3 in Visit 10 (2) Prime + Parallel Group 2-3 in Pattern 2, Exps 2-3 in Visit 10	564.0 Secs (1004 Secs) *[==>502.0 Secs (Pattern 1)]* *[==>502.0 Secs (Pattern 2)]*	***[1]***
3		(2) N3372-POS19	WFC3/UVIS, ACCUM, UVIS	F656N	FLASH=20		Pattern 2, Exps 2-3 in Visit 10 (2) Prime + Parallel Group 2-3 in Pattern 2, Exps 2-3 in Visit 10	420 Secs (992 Secs) *[==>480.0 Secs (Pattern 1)]* *[==>512.0 Secs (Pattern 2)]*	***[1]***

Orbit Structure



Visit

Proposal 17836, Visit 11, scheduling Mon Jun 15 15:00:34 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: ORIENT 184D TO 185 D

Diagnostics

(Visit 11) Warning (Orbit Planner): INVALID GS ACQ SCENARIO SPECIAL REQUIREMENT

(Visit 11) Warning (Orbit Planner): PATTERN POSITION OUTSIDE APERTURE

(Visit 11) Warning (Orbit Planner): PATTERN POSITION OUTSIDE APERTURE

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.146 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=47.17 Angle Between Sides= Center Pattern=false		(1), (2-3), (4), (5-6)

Fixed Targets

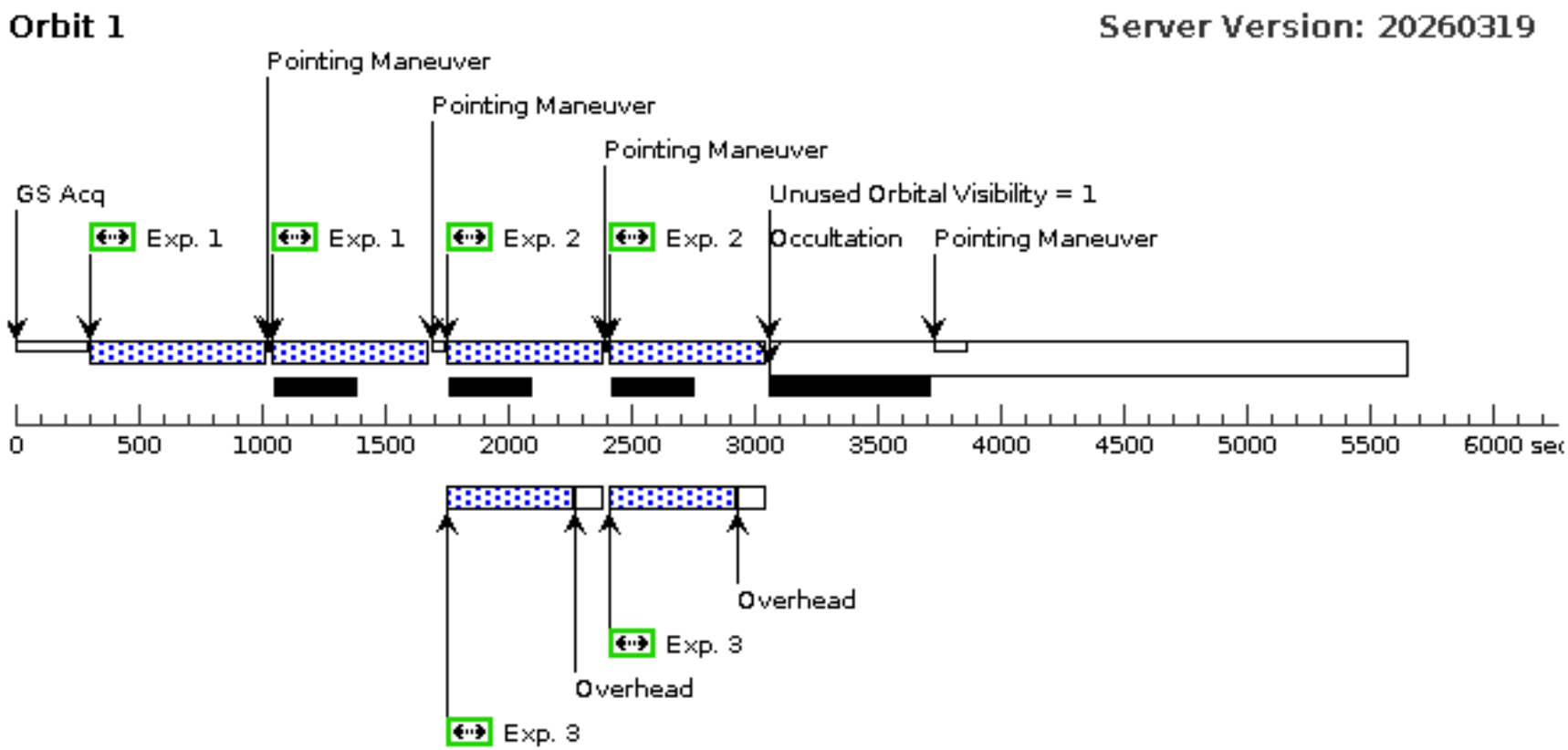
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(12)	N3372-POS29 Alt Name1: CR228	RA: 10 43 54.0000 (160.9750000d) Dec: -60 07 16.00 (-60.12111d) Equinox: J2000		V=12	Reference Frame: ICRS

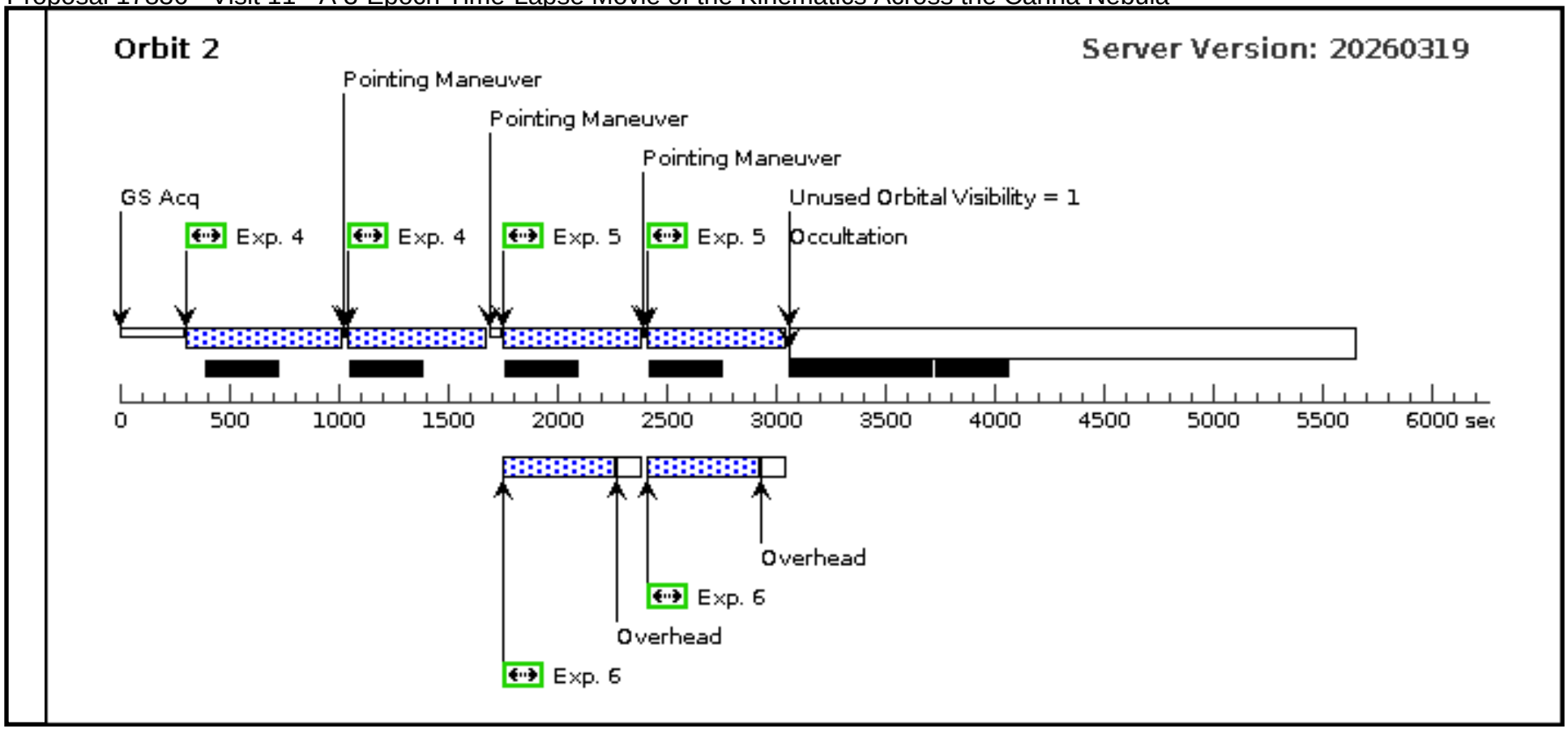
Comments:
Category=ISM
Description=[HII REGION]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(12) N3372-POS29	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 5,193.632	Pattern 2, Exps 1-1 in Visit 11 (2)	458.0 Secs (1014 Secs) *[==>507.0 Secs (Pattern 1)]* *[==>507.0 Secs (Pattern 2)]*	***[1]***
2		(12) N3372-POS29	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 0,96.816; GS ACQ SCENARIO ONEB1O3	Pattern 2, Exps 2-3 in Visit 11 (2) Prime + Parallel Group 2-3 in Pattern 2, Exps 2-3 in Visit 11	458.0 Secs (1014 Secs) *[==>507.0 Secs (Pattern 1)]* *[==>507.0 Secs (Pattern 2)]*	***[1]***
3		(12) N3372-POS29	WFC3/UVIS, ACCUM, UVIS	F656N	FLASH=20		Pattern 2, Exps 2-3 in Visit 11 (2) Prime + Parallel Group 2-3 in Pattern 2, Exps 2-3 in Visit 11	446.0 Secs (984 Secs) *[==>476.0 Secs (Pattern 1)]* *[==>508.0 Secs (Pattern 2)]*	***[1]***
4		(12) N3372-POS29	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG -5,-96.816; GS ACQ SCENARIO ONEB1O3	Pattern 2, Exps 4-4 in Visit 11 (2)	458.0 Secs (1014 Secs) *[==>507.0 Secs (Pattern 1)]* *[==>507.0 Secs (Pattern 2)]*	***[2]***
5		(12) N3372-POS29	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG -10,-193.632; GS ACQ SCENARIO ONEB1O3	Pattern 2, Exps 5-6 in Visit 11 (2) Prime + Parallel Group 5-6 in Pattern 2, Exps 5-6 in Visit 11	458.0 Secs (1014 Secs) *[==>507.0 Secs (Pattern 1)]* *[==>507.0 Secs (Pattern 2)]*	***[2]***
6		(12) N3372-POS29	WFC3/UVIS, ACCUM, UVIS	F656N	FLASH=20		Pattern 2, Exps 5-6 in Visit 11 (2) Prime + Parallel Group 5-6 in Pattern 2, Exps 5-6 in Visit 11	446.0 Secs (984 Secs) *[==>476.0 Secs (Pattern 1)]* *[==>508.0 Secs (Pattern 2)]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20260319
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
GS Acq
Exp. 4
Exp. 4
Exp. 5
Exp. 5
Occultation
Unused Orbital Visibility = 1
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec
Overhead
Exp. 6
Overhead
Exp. 6

Visit

Proposal 17836, Visit 12, implementation Mon Jun 15 15:00:34 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: ORIENT 254D TO 256 D

Diagnostics

(Visit 12) Warning (Orbit Planner): PATTERN POSITION OUTSIDE APERTURE

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.146 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=47.17 Angle Between Sides= Center Pattern=false		(1), (2-3)

Fixed Targets

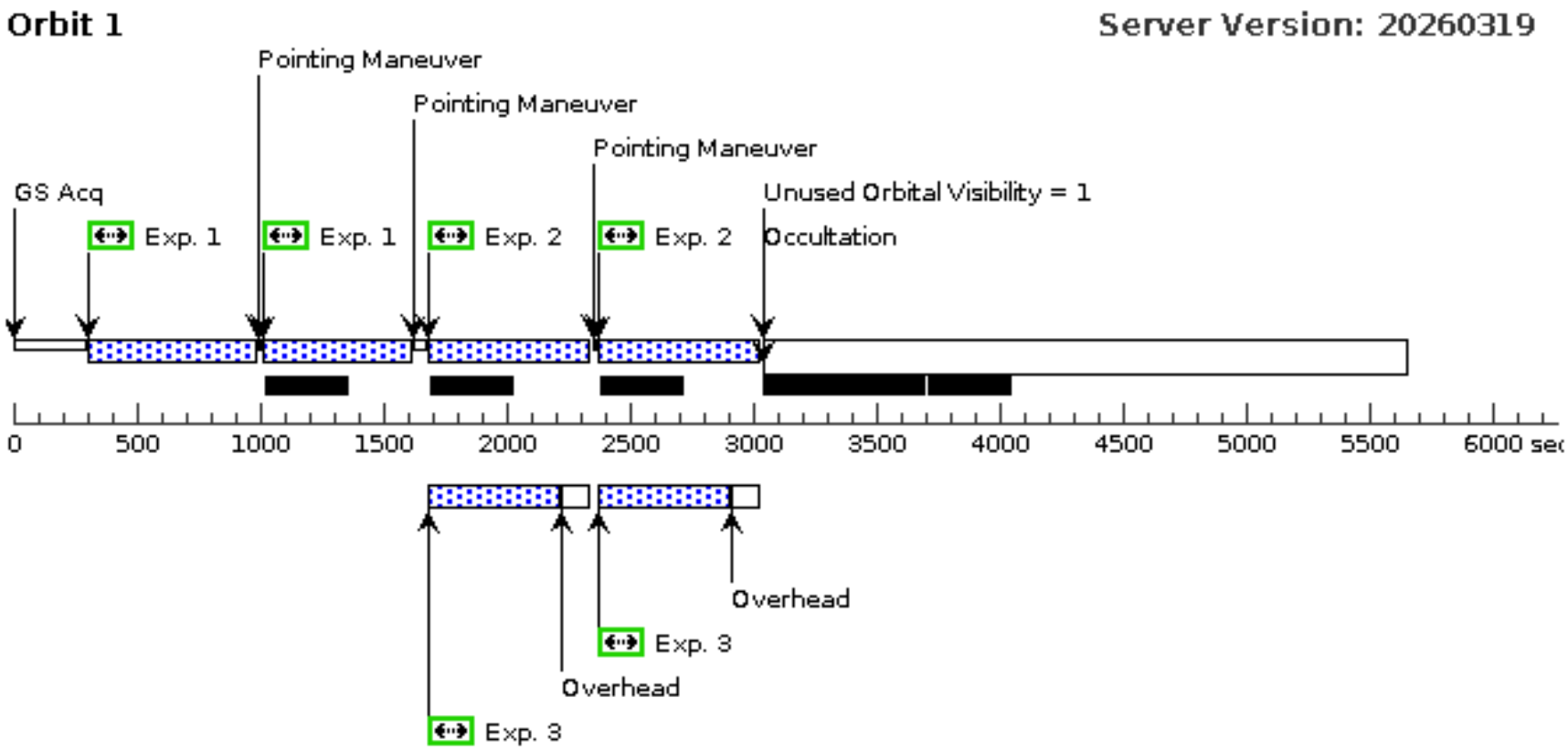
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(10)	N3372-POS28	RA: 10 39 5.0000 (159.7708333d) Dec: -59 36 0.00 (-59.60000d) Equinox: J2000		V=10.0	Reference Frame: ICRS

Comments:
Category=ISM
Description=[HII REGION]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(10) N3372-POS28	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 0,-136.816	Pattern 2, Exps 1-1 in Visit 12 (2)	560.0 Secs (946 Secs) *[==>473.0 Secs (Pattern 1)]* *[==>473.0 Secs (Pattern 2)]*	***[1]***
2		(10) N3372-POS28	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 0.0,-40.0; GS ACQ SCENARIO ONEB1O3	Pattern 2, Exps 2-3 in Visit 12 (2) Prime + Parallel Group 2-3 in Pattern 2, Exps 2-3 in Visit 12	560.0 Secs (1062 Secs) *[==>531.0 Secs (Pattern 1)]* *[==>531.0 Secs (Pattern 2)]*	***[1]***
3		(10) N3372-POS28	WFC3/UVIS, ACCUM, UVIS	F656N	FLASH=20		Pattern 2, Exps 2-3 in Visit 12 (2) Prime + Parallel Group 2-3 in Pattern 2, Exps 2-3 in Visit 12	446.0 Secs (1032 Secs) *[==>500.0 Secs (Pattern 1)]* *[==>532.0 Secs (Pattern 2)]*	***[1]***

Orbit Structure



Visit

Proposal 17836, Visit 14, implementation Mon Jun 15 15:00:34 GMT 2026

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: ORIENT 254D TO 255 D

Diagnostics

(Visit 14) Warning (Orbit Planner): INVALID GS ACQ SCENARIO SPECIAL REQUIREMENT

(Visit 14) Warning (Orbit Planner): PATTERN POSITION OUTSIDE APERTURE

(Visit 14) Warning (Orbit Planner): PATTERN POSITION OUTSIDE APERTURE

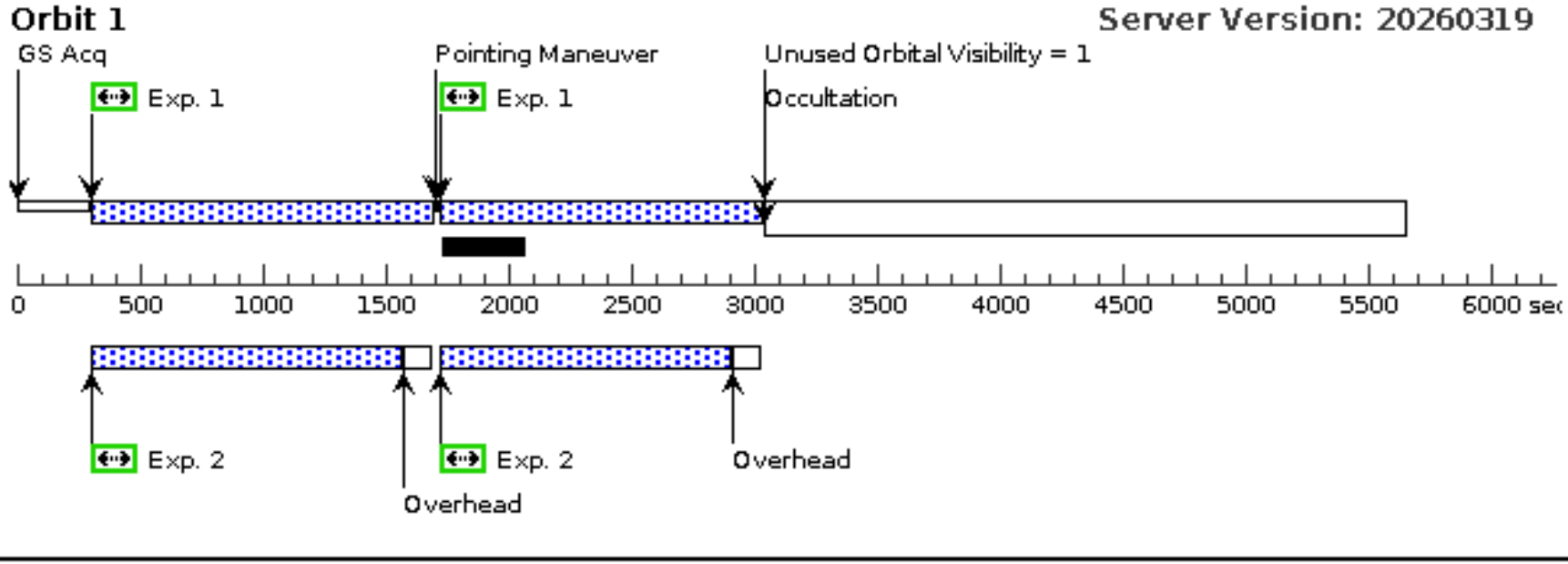
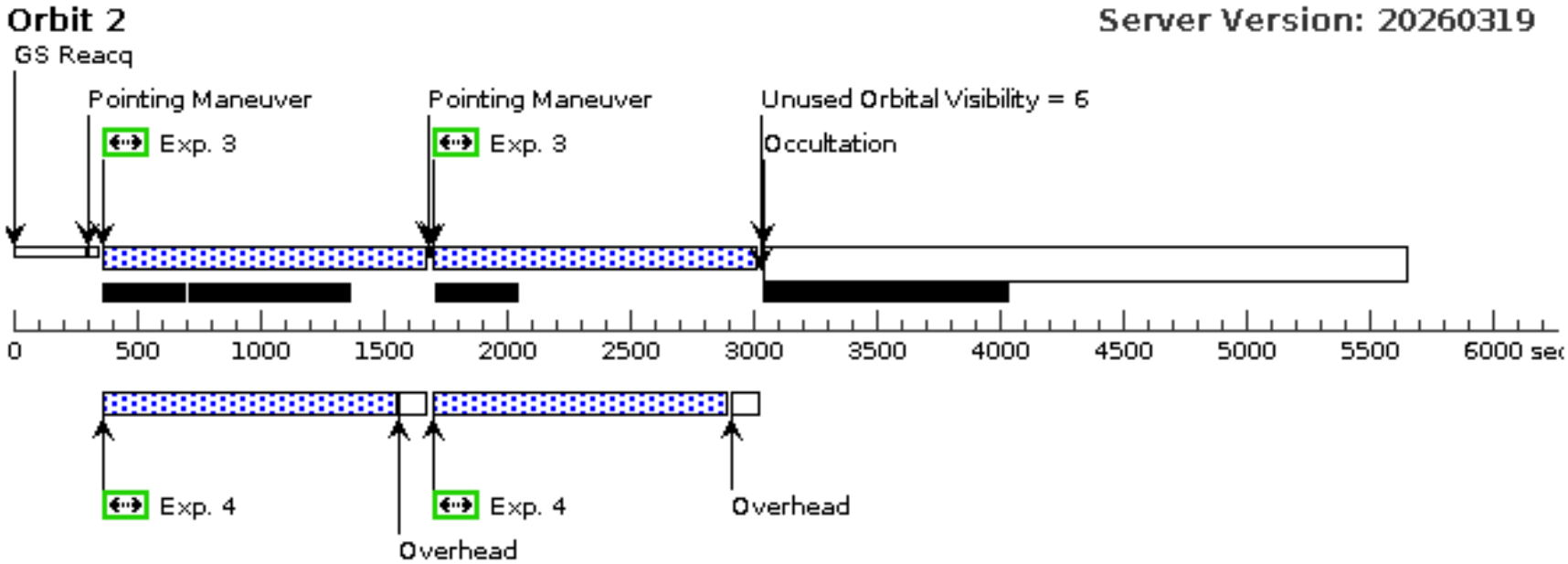
Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.146 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=47.17 Angle Between Sides= Center Pattern=false		(1-2), (3-4)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(9)	N3372-POS27 Alt Name1: TEARDROP	RA: 10 44 43.0000 (161.1791667d) Dec: -59 56 20.00 (-59.93889d) Equinox: J2000		V=10.0	Reference Frame: ICRS
Comments: *Category=ISM* *Description=[HII REGION]*					
(10)	N3372-POS28	RA: 10 39 5.0000 (159.7708333d) Dec: -59 36 0.00 (-59.60000d) Equinox: J2000		V=10.0	Reference Frame: ICRS
Comments: *Category=ISM* *Description=[HII REGION]*					

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(9) N3372-POS27	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG -90.0,-163.0; GS ACQ SCENARIO ONEB1O3	Pattern 2, Exps 1-2 in Visit 14 (2) Prime + Parallel Group 1-2 in Pattern 2, Exps 1-2 in Visit 14	560.0 Secs (2364 Secs) *[==>1182.0 Secs (Pattern 1)]* *[==>1182.0 Secs (Pattern 2)]*	***[1]***
2		(10) N3372-POS28	WFC3/UVIS, ACCUM, UVIS	F280N	FLASH=16		Pattern 2, Exps 1-2 in Visit 14 (2) Prime + Parallel Group 1-2 in Pattern 2, Exps 1-2 in Visit 14	646.0 Secs (2416 Secs) *[==>1233.0 Secs (Pattern 1)]* *[==>1183.0 Secs (Pattern 2)]*	***[1]***
3		(9) N3372-POS27	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG -110.0,-73.0; GS ACQ SCENARIO ONEB1O3	Pattern 2, Exps 3-4 in Visit 14 (2) Prime + Parallel Group 3-4 in Pattern 2, Exps 3-4 in Visit 14	560.0 Secs (2382 Secs) *[==>1191.0 Secs (Pattern 1)]* *[==>1191.0 Secs (Pattern 2)]*	***[2]***
4		(10) N3372-POS28	WFC3/UVIS, ACCUM, UVIS	F280N	FLASH=20		Pattern 2, Exps 3-4 in Visit 14 (2) Prime + Parallel Group 3-4 in Pattern 2, Exps 3-4 in Visit 14	646.0 Secs (2384 Secs) *[==>1192.0 Secs (Pattern 1)]* *[==>1192.0 Secs (Pattern 2)]*	***[2]***

Orbit Structure