18005 - 2014 WC510: A second trans-Neptunian triple?

Cycle: 33, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

Name	*Institution*
Dr. Benjamin Proudfoot (PI) (Contact)	**University of Central Florida Board of Trustees**
Dr. Will M. Grundy (CoI)	Lowell Observatory
Dr. Audrey Thirouin (CoI)	Lowell Observatory

VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) WC510	WFC3/UVIS	1	01-Dec-2025 14:00:31.0	yes
02	(1) WC510	WFC3/UVIS	1	01-Dec-2025 14:00:32.0	yes
03	(1) WC510	WFC3/UVIS	1	01-Dec-2025 14:00:33.0	yes
04	(1) WC510	WFC3/UVIS	1	01-Dec-2025 14:00:33.0	yes
05	(1) WC510	WFC3/UVIS	1	01-Dec-2025 14:00:34.0	yes
06	(1) WC510	WFC3/UVIS	1	01-Dec-2025 14:00:35.0	yes
12	(1) WC510	WFC3/UVIS	1	01-Dec-2025 14:00:35.0	yes

7 Total Orbits Used

ABSTRACT

Small planetesimals in the trans-Neptunian region are thought to be formed as the result of gravitational collapse triggered by the streaming instability mechanism. Simulations of such gravitational collapses commonly produce hierarchical triple systems (and other higher multiples), suggesting that they may be common in the trans-Neptunian region. However, to date, only one hierarchical triple has been found, suggesting that

either triples are rare or telescopes have not yet reached the necessary resolution to resolve them. Recent HST observations have revealed that 2014 WC510, previously seen to be a closely separated binary, could have a more distant third companion. Alternatively, the system may be a wide binary that happens to be in an edge-on orbit. To determine if WC510 is the Solar System's second confirmed hierarchical triple, we propose a simple 6 orbit program to recover the orbit of the newly discovered distant companion. This provides a sensitive test of the streaming instability formation of planetesimals. Even if not a triple system, our program will precisely measure WC510's mass, providing one of the most precisely known densities in its size range. There is also potential to predict mutual events, which can provide a powerful tool to study WC510 in exquisite detail.

OBSERVING DESCRIPTION

Our observations call for 6 single-orbit visits to image the 2014 WC510 system using the WFC3/UVIS instrument. During each visit, images will be acquired using the UVIS2-C512C-SUB aperture, paired with the F350LP filter to optimize astrometric precision. At the end of each visit, two full-frame UVIS2 images will be acquired which provides the data significant legacy value for precise absolute astrometric studies. Exposure times for all images are chosen to optimize SNR and schedulability, with 8 dithered images taken during each visit. This allows us to remain robust to unlucky cosmic ray hits.

Scheduling of observations is important to the goals of our program. Recovery of binary is most efficiently accomplished by precisely timed follow-up observations. Our program begins with three "anchor" observations, which should detect the binary system at least two times. These should occur as early as possible in the Cycle and be spaced 4-8 days apart. Based on these initial detections, alongside the discovery observation, precise times for follow-up can be calculated. Hence, Visits 4-6 are placed "On hold" until after acquisition and analysis of Visits 1-3. Then, each further visit will be updated with "betweens" to efficiently recover the binary orbit.

The timing windows input into the Phase II are somewhat flexible, and can be changed if necessary. If more observing windows are needed, we can provide them, although we will usually provide our "optimal" windows.

Once preliminary scheduling windows are identified, we will check for bright nearby stars that could degrade image quality.

Visit

Proposal 18005, Anchor 1 (01), completed Mon Dec 01 19:00:36 GMT 2025

Diagnostic Status: Informational

Scientific Instruments: WFC3/UVIS

Special Requirements: SCHED 100%; BEFORE 15-NOV-2025:00:00:00

Diagnostics

(Anchor 1 (01)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(1)
(2)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(2), (3)

Solar System Targets

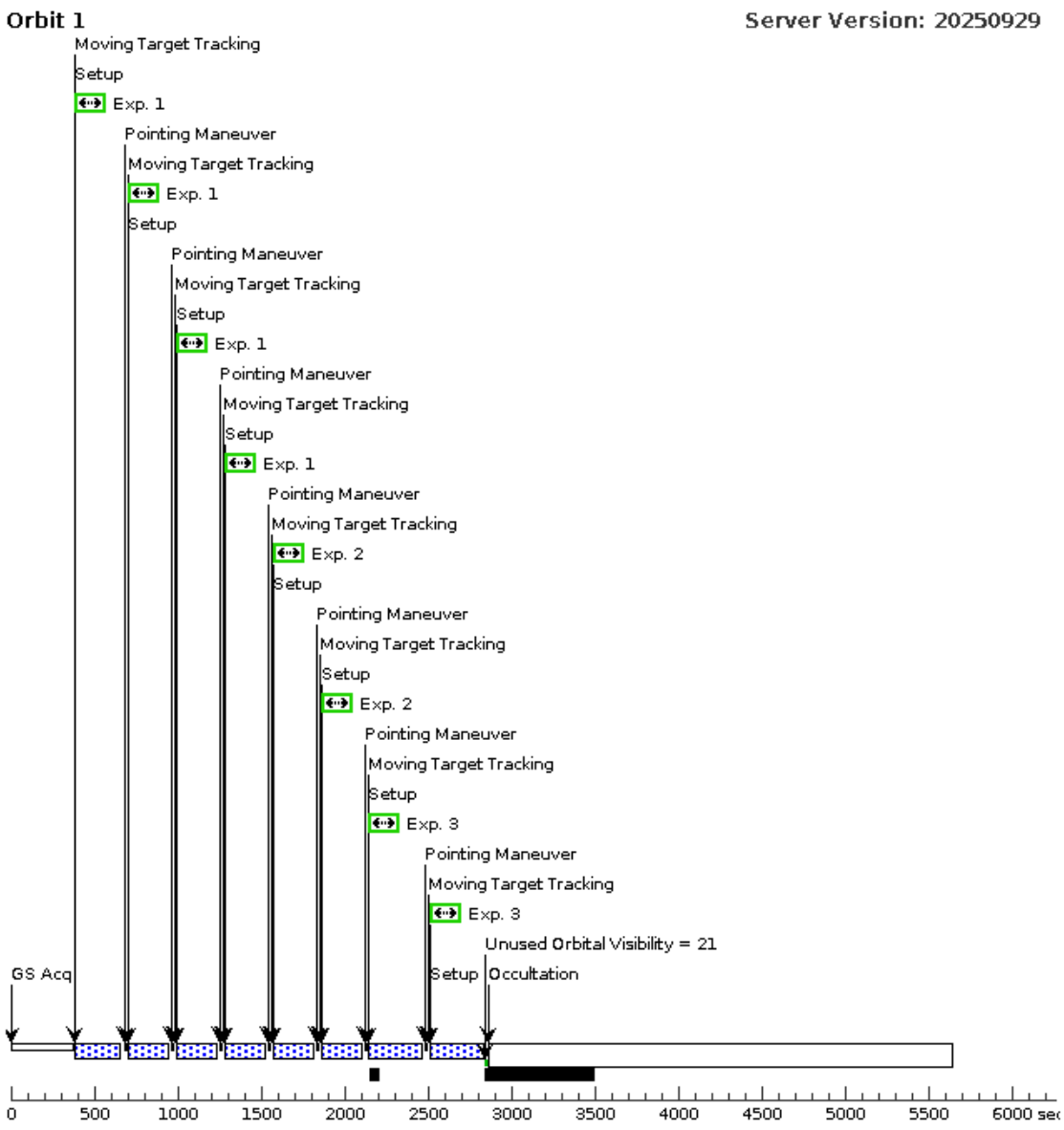
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	WC510	TYPE=ASTEROID,A=39.638787434044138,E=0.2551217183892524,I=19.54803566488891,O=194.5694855695911,W=288.8516732889418,M=336.7155725065204,EQUINOX=J2000,EPOCH=29-SEP-2015:00:00:00,EpochTimeScale=TDB				EARTH

Comments: Description=TNO trinary?
Extended=NO

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) WC510	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP	FLASH=1		Sequence 1-3 Non-Int in Anchor 1 (01) Pattern 1, Exps 1-1 in Sequence 1-3 Non-Int in Anchor 1 (01) (1)	200 Secs (800 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(1) WC510	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP	FLASH=1		Sequence 1-3 Non-Int in Anchor 1 (01) Pattern 2, Exps 2-2 in Sequence 1-3 Non-Int in Anchor 1 (01) (2)	200 Secs (400 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
3		(1) WC510	WFC3/UVIS, ACCUM, UVIS2	F350LP	FLASH=1		Sequence 1-3 Non-Int in Anchor 1 (01) Pattern 2, Exps 3-3 in Sequence 1-3 Non-Int in Anchor 1 (01) (2)	200 Secs (400 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***

Orbit Structure



Visit

Proposal 18005, Anchor 2 (02), failed Mon Dec 01 19:00:36 GMT 2025

Diagnostic Status: Informational

Scientific Instruments: WFC3/UVIS

Special Requirements: SCHED 100%; AFTER 01 BY 4 D TO 8 D

Comments: Should be 4-8 days after Visit 1.

Diagnostics

(Anchor 2 (02)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(1)
(2)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(2), (3)

Solar System Targets

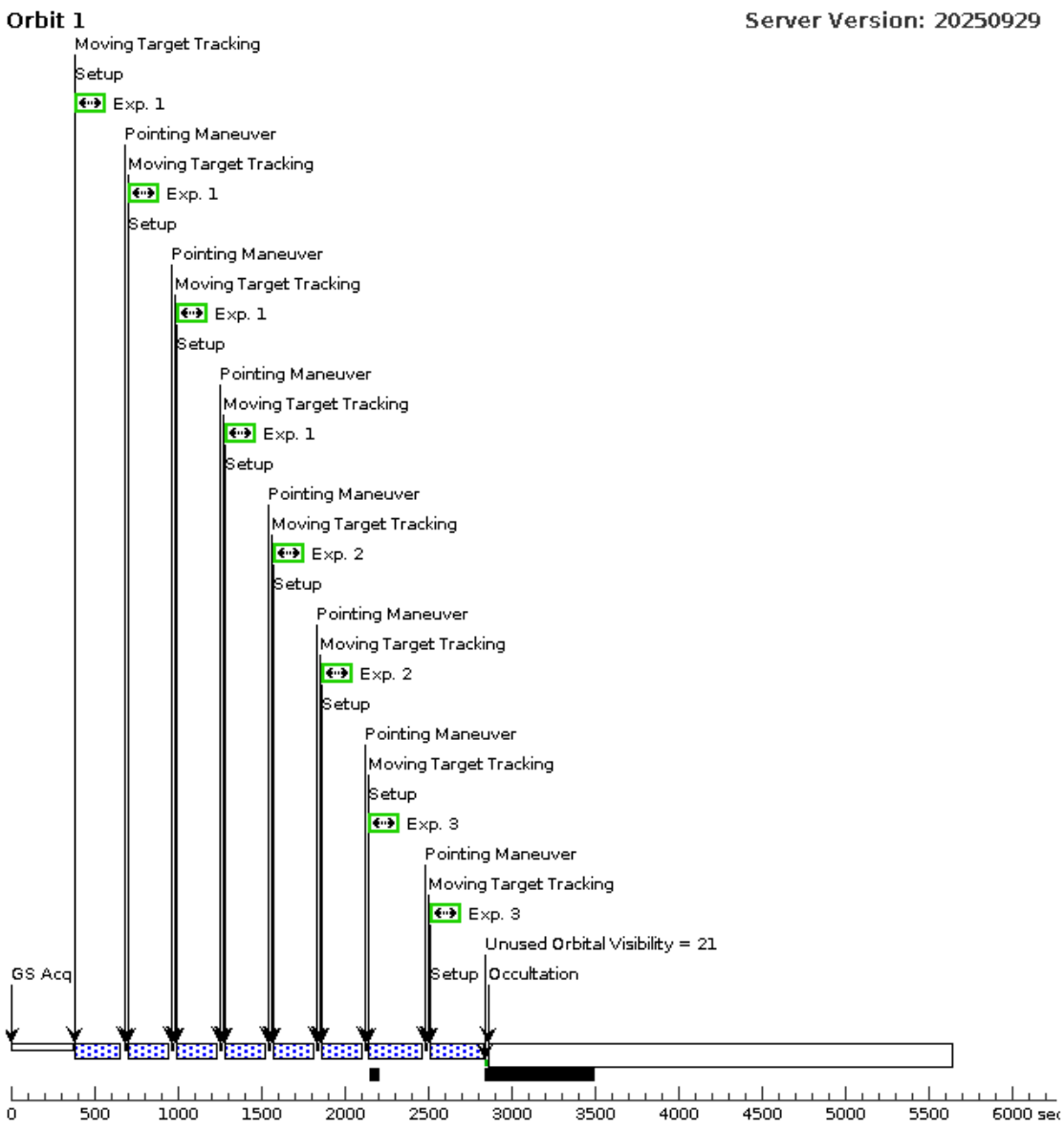
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	WC510	TYPE=ASTEROID,A=39.6387874340 4138,E=0.2551217183892524,I=19.54 803566488891 ,O=194.5694855695911,W=288.85167 32889418,M=336.7155725065204,EQ UINOX=J2000,EPOCH=29-SEP- 2015:00:00:00,EpochTimeScale=TDB				EARTH

Comments: Description=TNO trinary?
Extended=NO

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) WC510	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP	FLASH=1		Sequence 1-3 Non-Int in Anchor 2 (02) Pattern 1, Exps 1-1 in Sequence 1-3 Non-Int in Anchor 2 (02) (1)	200 Secs (800 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(1) WC510	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP	FLASH=1		Sequence 1-3 Non-Int in Anchor 2 (02) Pattern 2, Exps 2-2 in Sequence 1-3 Non-Int in Anchor 2 (02) (2)	200 Secs (400 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
3		(1) WC510	WFC3/UVIS, ACCUM, UVIS2	F350LP	FLASH=1		Sequence 1-3 Non-Int in Anchor 2 (02) Pattern 2, Exps 3-3 in Sequence 1-3 Non-Int in Anchor 2 (02) (2)	200 Secs (400 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***

Orbit Structure



Visit

Proposal 18005, Anchor 3 (03), completed Mon Dec 01 19:00:36 GMT 2025

Diagnostic Status: Informational

Scientific Instruments: WFC3/UVIS

Special Requirements: SCHED 100%; AFTER 02 BY 4 D TO 8 D

Comments: Should be 4-8 days after Visit 2.

Diagnostics

(Anchor 3 (03)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(1)
(2)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(2), (3)

Solar System Targets

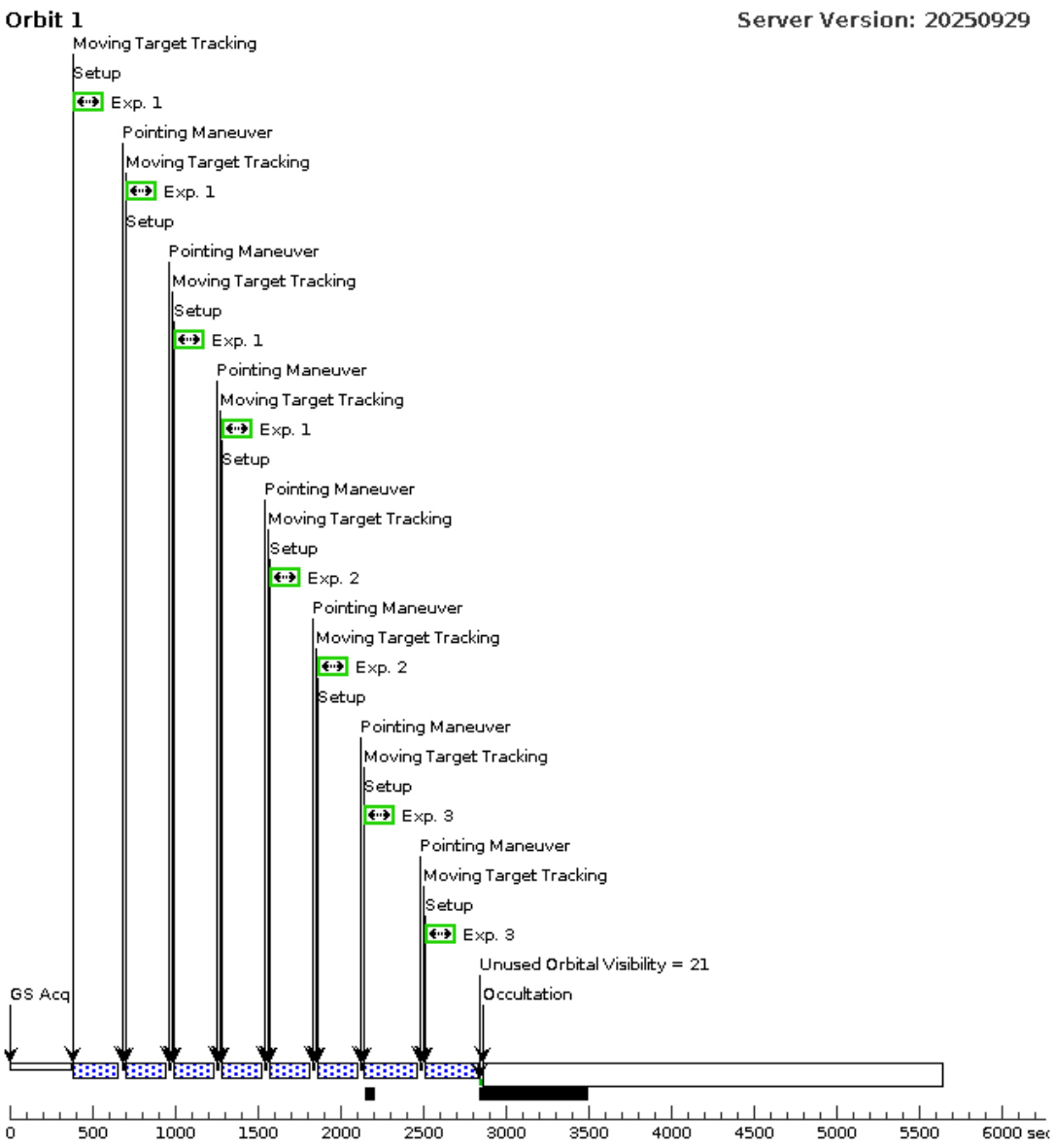
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	WC510	TYPE=ASTEROID,A=39.6387874340 4138,E=0.2551217183892524,I=19.54 803566488891 ,O=194.5694855695911,W=288.85167 32889418,M=336.7155725065204,EQ UINOX=J2000,EPOCH=29-SEP- 2015:00:00:00,EpochTimeScale=TDB				EARTH

Comments: Description=TNO trinary?
Extended=NO

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) WC510	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP	FLASH=1		Sequence 1-3 Non-Int in Anchor 3 (03) Pattern 1, Exps 1-1 in Sequence 1-3 Non-Int in Anchor 3 (03) (1)	200 Secs (800 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(1) WC510	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP	FLASH=1		Sequence 1-3 Non-Int in Anchor 3 (03) Pattern 2, Exps 2-2 in Sequence 1-3 Non-Int in Anchor 3 (03) (2)	200 Secs (400 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
3		(1) WC510	WFC3/UVIS, ACCUM, UVIS2	F350LP	FLASH=1		Sequence 1-3 Non-Int in Anchor 3 (03) Pattern 2, Exps 3-3 in Sequence 1-3 Non-Int in Anchor 3 (03) (2)	200 Secs (400 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***

Orbit Structure



Visit

Proposal 18005, Follow-up 1 (04), implementation Mon Dec 01 19:00:36 GMT 2025

Diagnostic Status: Informational

Scientific Instruments: WFC3/UVIS

Special Requirements: SCHED 100%; BETWEEN 21-DEC-2025:00:00:00 AND 25-DEC-2025:00:00:00

Comments: Based on the first three visits, we have determined a range of times when the system is ideal to observe. The ideal observation date is 2025-12-23 00:00 +/- 2 days. If this timing is not possible, we can rerun our analysis and find alternate times.

Diagnostics

(Follow-up 1 (04)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(1)
(2)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(2), (3)

Solar System Targets

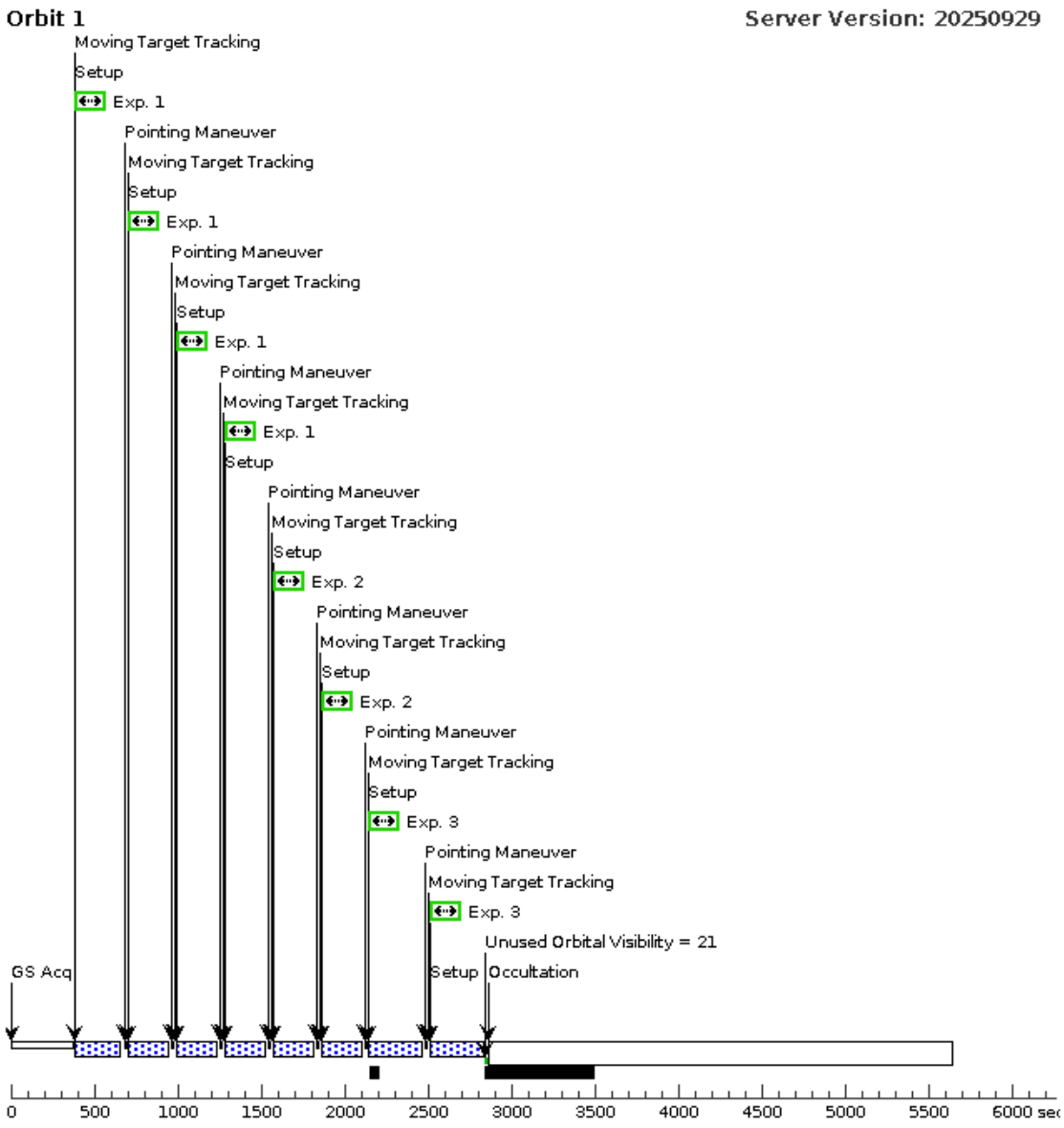
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	WC510	TYPE=ASTEROID,A=39.6387874340 4138,E=0.2551217183892524,I=19.54 803566488891 ,O=194.5694855695911,W=288.85167 32889418,M=336.7155725065204,EQ UINOX=J2000,EPOCH=29-SEP- 2015:00:00:00,EpochTimeScale=TDB				EARTH

Comments: Description=TNO trinary?
Extended=NO

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) WC510	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP	FLASH=1		Sequence 1-3 Non-Int in Follow-up 1 (04) Pattern 1, Exps 1-1 in Sequence 1-3 Non-Int in Follow-up 1 (04) (1)	200 Secs (800 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(1) WC510	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP	FLASH=1		Sequence 1-3 Non-Int in Follow-up 1 (04) Pattern 2, Exps 2-2 in Sequence 1-3 Non-Int in Follow-up 1 (04) (2)	200 Secs (400 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
3		(1) WC510	WFC3/UVIS, ACCUM, UVIS2	F350LP	FLASH=1		Sequence 1-3 Non-Int in Follow-up 1 (04) Pattern 2, Exps 3-3 in Sequence 1-3 Non-Int in Follow-up 1 (04) (2)	200 Secs (400 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***

Orbit Structure



Visit

Proposal 18005, Follow-up 2 (05), implementation Mon Dec 01 19:00:36 GMT 2025

Diagnostic Status: Informational

Scientific Instruments: WFC3/UVIS

Special Requirements: SCHED 100%; BETWEEN 28-DEC-2025:12:00:00 AND 01-JAN-2026:12:00:00

Comments: Based on the first three visits, we have determined a range of times when the system is ideal to observe. The ideal observation date is 2025-12-30 12:00 +/- 2 days. If this timing is not possible, we can rerun our analysis and find alternate times.

Diagnostics

(Follow-up 2 (05)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(1)
(2)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(2), (3)

Solar System Targets

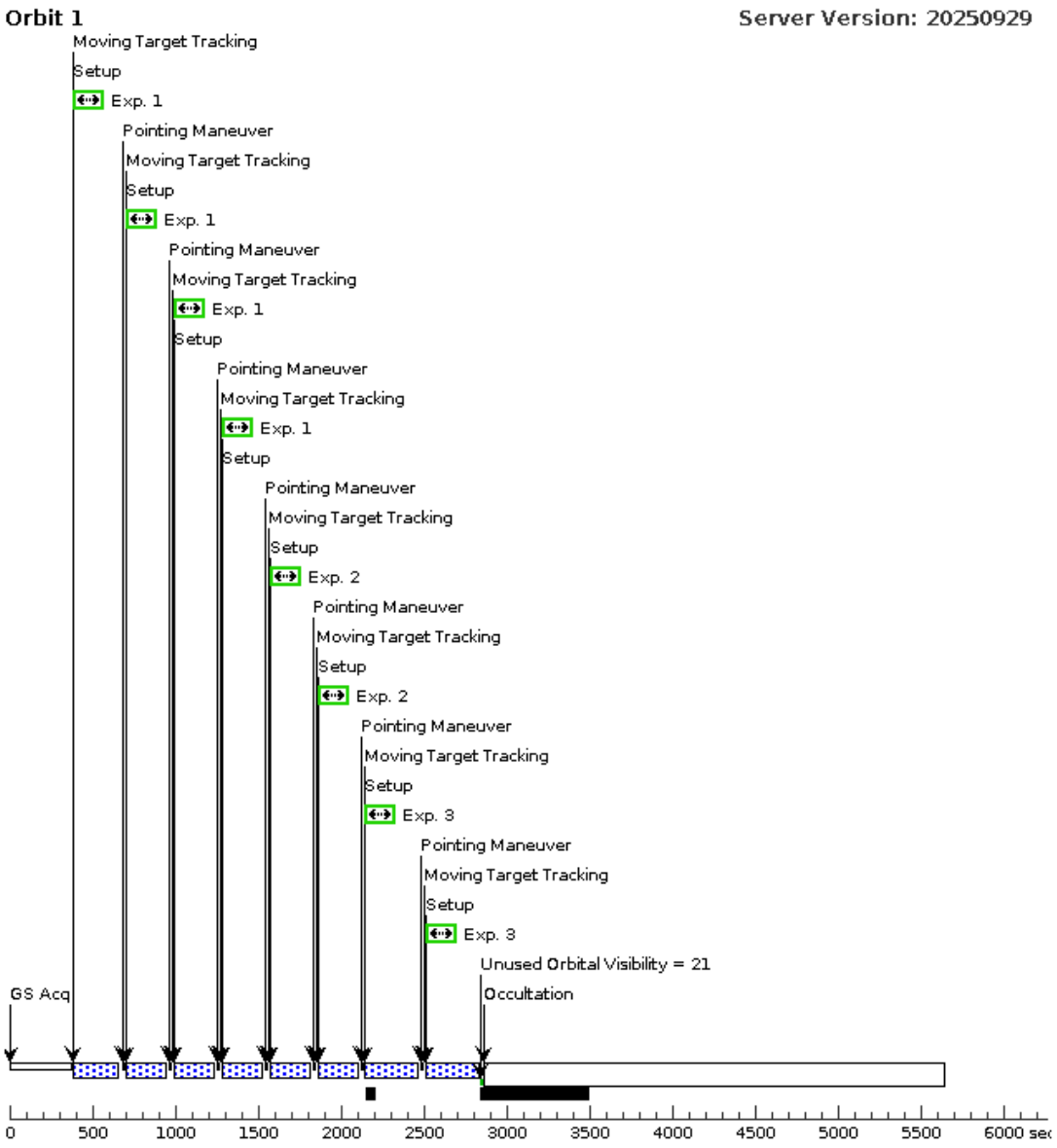
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	WC510	TYPE=ASTEROID,A=39.638787434041138,E=0.2551217183892524,I=19.54803566488891 ,O=194.5694855695911,W=288.8516732889418,M=336.7155725065204,EQUINOX=J2000,EPOCH=29-SEP-2015:00:00:00,EpochTimeScale=TDB				EARTH

Comments: Description=TNO trinary?
Extended=NO

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) WC510	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP	FLASH=1		Sequence 1-3 Non-Int in Follow-up 2 (05) Pattern 1, Exps 1-1 in Sequence 1-3 Non-Int in Follow-up 2 (05) (1)	200 Secs (800 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(1) WC510	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP	FLASH=1		Sequence 1-3 Non-Int in Follow-up 2 (05) Pattern 2, Exps 2-2 in Sequence 1-3 Non-Int in Follow-up 2 (05) (2)	200 Secs (400 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
3		(1) WC510	WFC3/UVIS, ACCUM, UVIS2	F350LP	FLASH=1		Sequence 1-3 Non-Int in Follow-up 2 (05) Pattern 2, Exps 3-3 in Sequence 1-3 Non-Int in Follow-up 2 (05) (2)	200 Secs (400 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***

Orbit Structure



Visit

Proposal 18005, Follow-up 3 (06), implementation Mon Dec 01 19:00:36 GMT 2025

Diagnostic Status: Informational

Scientific Instruments: WFC3/UVIS

Special Requirements: SCHED 100%; ON HOLD

Comments: On hold will be removed and replaced with "betweens" after acquisition and analysis of Visits 1-5.

On Hold Comments: Based on the discovery observation (taken as part of program 17524) and the first five visits, optimal scheduling opportunities will be calculated and provided ASAP after Visits 1-5 are taken. These will be provided as "betweens" that last a few days.

Diagnostics

(Follow-up 3 (06)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(1)
(2)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(2), (3)

Solar System Targets

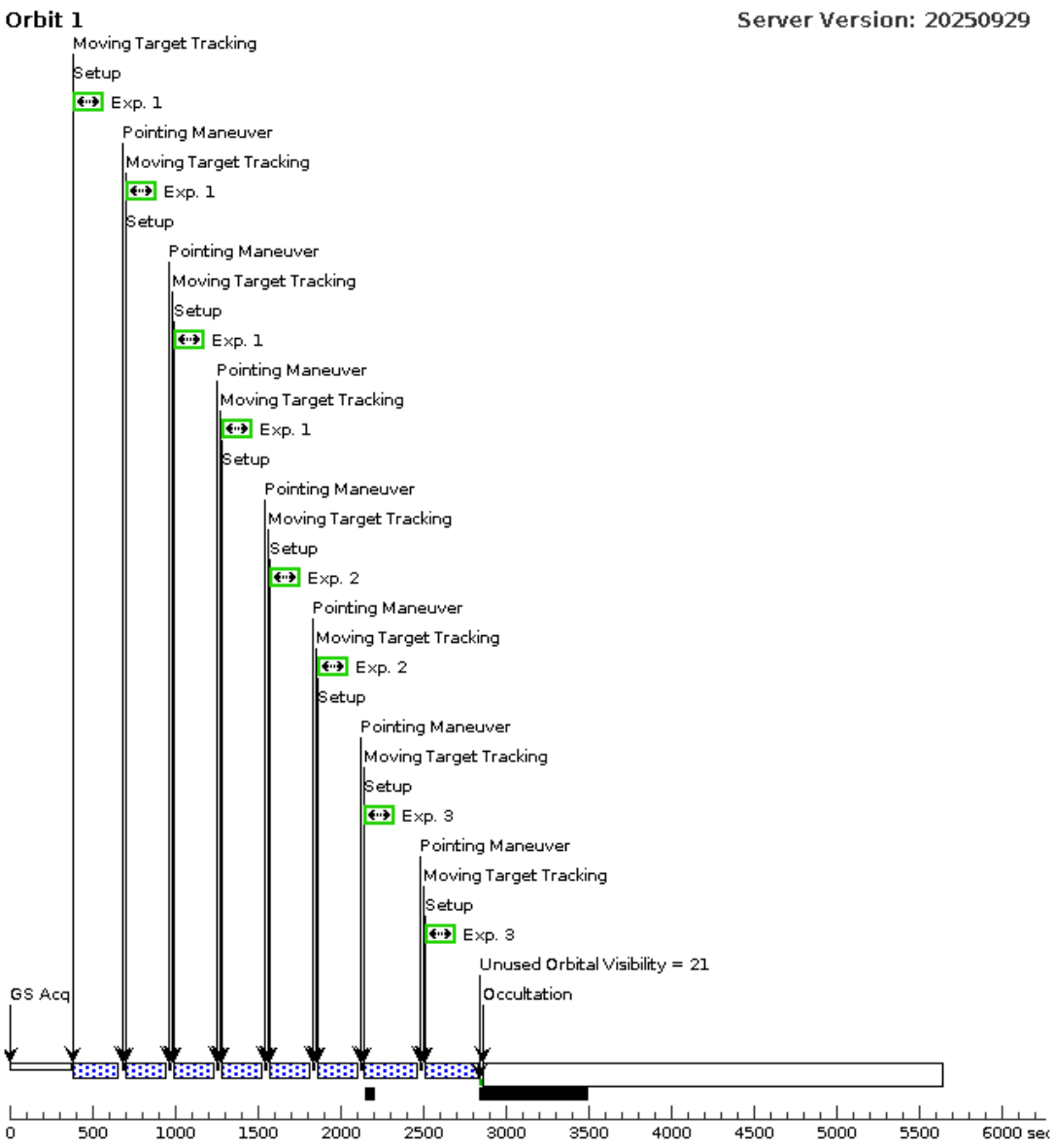
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	WC510	TYPE=ASTEROID,A=39.6387874340 4138,E=0.2551217183892524,I=19.54 803566488891 ,O=194.5694855695911,W=288.85167 32889418,M=336.7155725065204,EQ UINOX=J2000,EPOCH=29-SEP- 2015:00:00:00,EpochTimeScale=TDB				EARTH

Comments: Description=TNO trinary?
Extended=NO

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) WC510	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP	FLASH=1		Sequence 1-3 Non-Int in Follow-up 3 (06) Pattern 1, Exps 1-1 in Sequence 1-3 Non-Int in Follow-up 3 (06) (1)	200 Secs (800 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(1) WC510	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP	FLASH=1		Sequence 1-3 Non-Int in Follow-up 3 (06) Pattern 2, Exps 2-2 in Sequence 1-3 Non-Int in Follow-up 3 (06) (2)	200 Secs (400 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
3		(1) WC510	WFC3/UVIS, ACCUM, UVIS2	F350LP	FLASH=1		Sequence 1-3 Non-Int in Follow-up 3 (06) Pattern 2, Exps 3-3 in Sequence 1-3 Non-Int in Follow-up 3 (06) (2)	200 Secs (400 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***

Orbit Structure



Visit

Proposal 18005, Follow-up 4 (12), implementation Mon Dec 01 19:00:36 GMT 2025

Diagnostic Status: Informational

Scientific Instruments: WFC3/UVIS

Special Requirements: SCHED 100%; ON HOLD

Comments: Repeat of failed visit 02. Unfortunately, due to the failure of visit 03, less information is available about the orbit period of our target than originally planned. To remedy this, we are getting another "anchor" pair using visits 04 and 05, which should enable scheduling for the final follow-up visits (06 and 12). Scheduling for this visit will be placed on hold, as with visit 06.

On Hold Comments: Based on the discovery observation (taken as part of program 17524) and the previous visits, optimal scheduling opportunities will be calculated and provided ASAP after Visits 1-5 are taken. These will be provided as "betweens" that last a few days. Backup opportunities will be available.

Diagnostics

(Follow-up 4 (12)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(1)
(2)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(2), (3)

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	WC510	TYPE=ASTEROID,A=39.6387874340 4138,E=0.2551217183892524,I=19.54 803566488891 ,O=194.5694855695911,W=288.85167 32889418,M=336.7155725065204,EQ UINOX=J2000,EPOCH=29-SEP- 2015:00:00:00,EpochTimeScale=TDB				EARTH

Comments: Description=TNO trinary?
Extended=NO

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) WC510	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP	FLASH=1		Sequence 1-3 Non-Int in Follow-up 4 (12) Pattern 1, Exps 1-1 in Sequence 1-3 Non-Int in Follow-up 4 (12) (1)	200 Secs (800 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(1) WC510	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F350LP	FLASH=1		Sequence 1-3 Non-Int in Follow-up 4 (12) Pattern 2, Exps 2-2 in Sequence 1-3 Non-Int in Follow-up 4 (12) (2)	200 Secs (400 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
3		(1) WC510	WFC3/UVIS, ACCUM, UVIS2	F350LP	FLASH=1		Sequence 1-3 Non-Int in Follow-up 4 (12) Pattern 2, Exps 3-3 in Sequence 1-3 Non-Int in Follow-up 4 (12) (2)	200 Secs (400 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***

Orbit Structure