17470 - HST-Juno Io Campaign: Connecting Volcanos to the Plasma Environment

Cycle: 31, Proposal Category: GO

(UV Initiative)

(Availability Mode: SUPPORTED)

INVESTIGATORS

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Dr. Thomas Kirk Greathouse (CoI)	Southwest Research Institute
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Dr. Glenn S. Orton (CoI)	Jet Propulsion Laboratory

VISITS

Visit	***Targets used in Visit***	***Configurations used in Visit***	***Orbits Used***	***Last Orbit Planner Run***	***OP Current with Visit?***
01	(1) IO-NCLOUD-SUBJUPITER	COS/FUV COS/NUV	2	31-Dec-2025 11:00:26.0	yes
1A	(1) IO-NCLOUD-SUBJUPITER	STIS/CCD STIS/FUV-MAMA	2	31-Dec-2025 11:00:27.0	yes
02	(2) IO-NCLOUD-LEADING	COS/FUV COS/NUV	2	31-Dec-2025 11:00:29.0	yes
2A	(2) IO-NCLOUD-LEADING	STIS/CCD STIS/FUV-MAMA	2	31-Dec-2025 11:00:31.0	yes
03	(3) IO-NCLOUD-ANTIJUPITER	COS/FUV COS/NUV	2	31-Dec-2025 11:00:32.0	yes
3A	(3) IO-NCLOUD-ANTIJUPITER	STIS/CCD STIS/FUV-MAMA	2	31-Dec-2025 11:00:33.0	yes
04	(4) IO-NCLOUD-TRAILING	COS/FUV COS/NUV	2	31-Dec-2025 11:00:34.0	yes
4A	(4) IO-NCLOUD-TRAILING	STIS/CCD STIS/FUV-MAMA	2	31-Dec-2025 11:00:35.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
05	(102) IO-NCLOUD-LEADING2	COS/FUV COS/NUV	2	31-Dec-2025 11:00:36.0	yes
5A	(102) IO-NCLOUD-LEADING2	STIS/CCD STIS/FUV-MAMA	2	31-Dec-2025 11:00:37.0	yes
06	(4) IO-NCLOUD-TRAILING	COS/FUV COS/NUV	2	31-Dec-2025 11:00:38.0	yes
6A	(4) IO-NCLOUD-TRAILING	STIS/CCD STIS/FUV-MAMA	2	31-Dec-2025 11:00:39.0	yes
07	(5) IO-PLASMATORUS-LEADING	STIS/CCD STIS/FUV-MAMA	2	31-Dec-2025 11:00:40.0	yes
08	(6) IO-PLASMATORUS-TRAILING	STIS/CCD STIS/FUV-MAMA	2	31-Dec-2025 11:00:41.0	yes
09	(7) NCLOUD-EASTANSA	COS/FUV	2	31-Dec-2025 11:00:42.0	yes
10	(7) NCLOUD-EASTANSA	COS/FUV	2	31-Dec-2025 11:00:42.0	yes
11	(8) NCLOUD-WESTANSA	COS/FUV	2	31-Dec-2025 11:00:43.0	yes
12	(8) NCLOUD-WESTANSA	COS/FUV	2	31-Dec-2025 11:00:43.0	yes
17	(9) IO-NCLOUD-TRAILING-NUV	COS/NUV	2	31-Dec-2025 11:00:44.0	yes
18	(2) IO-NCLOUD-LEADING (10) EUROPA-NCLOUD-EASTANSA	COS/FUV COS/NUV STIS/FUV-MAMA	4	31-Dec-2025 11:00:45.0	yes
19	(2) IO-NCLOUD-LEADING (11) EUROPA-NCLOUD-WESTANSA	COS/FUV COS/NUV STIS/FUV-MAMA	4	31-Dec-2025 11:00:47.0	yes
20	(20) IO-AURORA-PJ57	STIS/CCD STIS/FUV-MAMA	3	31-Dec-2025 11:00:48.0	yes
21	(20) IO-AURORA-PJ57	STIS/CCD STIS/FUV-MAMA	3	31-Dec-2025 11:00:49.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
22	(25) IO-AURORA-UVS1	STIS/CCD STIS/FUV-MAMA	2	31-Dec-2025 11:00:50.0	yes
23	(21) IO-AURORA-PJ58	STIS/CCD STIS/FUV-MAMA	3	31-Dec-2025 11:00:51.0	yes
92	(21) IO-AURORA-PJ58	STIS/CCD STIS/FUV-MAMA	3	31-Dec-2025 11:00:51.0	yes
24	(21) IO-AURORA-PJ58	STIS/CCD STIS/FUV-MAMA	3	31-Dec-2025 11:00:52.0	yes
25	(22) IO-AURORA-PJ59	STIS/CCD STIS/FUV-MAMA	2	31-Dec-2025 11:00:53.0	yes
93	(22) IO-AURORA-PJ59	STIS/CCD STIS/FUV-MAMA	2	31-Dec-2025 11:00:54.0	yes
26	(22) IO-AURORA-PJ59	STIS/CCD STIS/FUV-MAMA	2	31-Dec-2025 11:00:55.0	yes
27	(27) IO-AURORA-UVS2-ECLIPSE	STIS/CCD STIS/FUV-MAMA	2	31-Dec-2025 11:00:55.0	yes
28	(23) IO-AURORA-PJ64	STIS/CCD STIS/FUV-MAMA	2	31-Dec-2025 11:00:56.0	yes
29	(23) IO-AURORA-PJ64	STIS/CCD STIS/FUV-MAMA	2	31-Dec-2025 11:00:57.0	yes
30	(30) IO-AURORA-UVS3	STIS/CCD STIS/FUV-MAMA	2	31-Dec-2025 11:00:58.0	yes
31	(24) IO-AURORA-PJ66	STIS/CCD STIS/FUV-MAMA	3	31-Dec-2025 11:00:58.0	yes
32	(24) IO-AURORA-PJ66	STIS/CCD STIS/FUV-MAMA	3	31-Dec-2025 11:00:59.0	yes
40	(40) IO-TRANSIT-FUV	STIS/FUV-MAMA	1	31-Dec-2025 11:01:00.0	yes
41	(41) IO-POSTTRANSIT-FUV	STIS/FUV-MAMA	1	31-Dec-2025 11:01:01.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
42	(140) IO-TRANSIT-FUV2	STIS/FUV-MAMA	1	31-Dec-2025 11:01:01.0	yes
43	(141) IO-POSTTRANSIT-FUV2	STIS/FUV-MAMA	1	31-Dec-2025 11:01:02.0	yes
44	(140) IO-TRANSIT-FUV2	STIS/FUV-MAMA	1	31-Dec-2025 11:01:02.0	yes
45	(205) IO-TRANSIT-NUV4	STIS/NUV-MAMA	1	31-Dec-2025 11:01:03.0	yes
46	(42) IO-TRANSIT-WFC3	WFC3/UVIS	1	31-Dec-2025 11:01:04.0	yes
90	(42) IO-TRANSIT-WFC3	WFC3/UVIS	1	31-Dec-2025 11:01:06.0	yes
47	(42) IO-TRANSIT-WFC3	WFC3/UVIS	1	31-Dec-2025 11:01:07.0	yes
48	(43) IO-TRANSIT-STISNUV (100) EUROPA-ACQ	STIS/CCD STIS/NUV-MAMA	1	31-Dec-2025 11:01:08.0	yes
49	(143) IO-TRANSIT-STISNUV2 (206) EUROPA-ACQ3	STIS/CCD STIS/NUV-MAMA	1	31-Dec-2025 11:01:09.0	yes
50	(143) IO-TRANSIT-STISNUV2 (206) EUROPA-ACQ3	STIS/CCD STIS/NUV-MAMA	1	31-Dec-2025 11:01:10.0	yes
51	(143) IO-TRANSIT-STISNUV2 (206) EUROPA-ACQ3	STIS/CCD STIS/NUV-MAMA	1	31-Dec-2025 11:01:11.0	yes
52	(44) IO-TRANSIT-COSNUV (206) EUROPA-ACQ3	COS/NUV	1	31-Dec-2025 11:01:12.0	yes
53	(46) IO-TRANSIT-COSNUV2 (206) EUROPA-ACQ3	COS/NUV	1	31-Dec-2025 11:01:13.0	yes
54	(46) IO-TRANSIT-COSNUV2 (206) EUROPA-ACQ3	COS/NUV	1	31-Dec-2025 11:01:13.0	yes
55	(44) IO-TRANSIT-COSNUV (206) EUROPA-ACQ3	COS/NUV	1	31-Dec-2025 11:01:14.0	yes
60	(60) IO-ECLIPSE-VIS-LOKI-STARE (100) EUROPA-ACQ CCDFLAT	STIS/CCD	1	31-Dec-2025 11:01:15.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
61	(61) IO-ECLIPSE-VIS-LOKI-SCAN (202) EUROPA-ACQ2 CCDFLAT	STIS/CCD	1	31-Dec-2025 11:01:16.0	yes
62	(62) IO-ECLIPSE-VIS-S2 (100) EUROPA-ACQ	STIS/CCD	1	31-Dec-2025 11:01:17.0	yes
63	(63) IO-ECLIPSE-VIS-NA-SCAN (202) EUROPA-ACQ2	STIS/CCD	1	31-Dec-2025 11:01:18.0	yes
64	(64) IO-ECLIPSE-VIS-HALPHA (202) EUROPA-ACQ2	STIS/CCD	1	31-Dec-2025 11:01:18.0	yes
65	(65) IO-ECLIPSE-VIS-K (202) EUROPA-ACQ2 CCDFLAT	STIS/CCD	1	31-Dec-2025 11:01:19.0	yes
66	(66) IO-ECLIPSE-INGRESS-COS-NUV	COS/NUV	2	31-Dec-2025 11:01:20.0	yes
67	(67) IO-ECLIPSE-EGRESS-COS-NUV (206) EUROPA-ACQ3	COS/NUV	2	31-Dec-2025 11:01:22.0	yes
68	(68) IO-ECLIPSE-STIS-NUV (202) EUROPA-ACQ2	STIS/CCD	1	31-Dec-2025 11:01:22.0	yes
80	(80) IO-SURFACE-STIS-VIS-LEADING CCDFLAT WAVE	STIS/CCD	2	31-Dec-2025 11:01:31.0	yes
8B	(80) IO-SURFACE-STIS-VIS-LEADING CCDFLAT WAVE	STIS/CCD	2	31-Dec-2025 11:01:38.0	yes
81	(81) IO-SURFACE-STIS-VIS-TRAILING CCDFLAT WAVE	STIS/CCD	2	31-Dec-2025 11:01:47.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
91	(91) IO-SURFACE-STIS-VIS-TRAILING2 CCDFLAT WAVE	STIS/CCD	2	31-Dec-2025 11:01:58.0	yes
82	(82) IO-SURFACE-STIS-FUV-45	STIS/CCD STIS/FUV-MAMA	2	31-Dec-2025 11:02:02.0	yes
83	(83) IO-SURFACE-STIS-FUV-135	STIS/CCD STIS/FUV-MAMA	2	31-Dec-2025 11:02:03.0	yes
84	(84) IO-SURFACE-STIS-FUV-225	STIS/CCD STIS/FUV-MAMA	2	31-Dec-2025 11:02:04.0	yes
85	(85) IO-SURFACE-STIS-FUV-315	STIS/CCD STIS/FUV-MAMA	2	31-Dec-2025 11:02:06.0	yes
86	(86) IO-SURFACE-COS-LEADING	COS/FUV COS/NUV	2	31-Dec-2025 11:02:07.0	yes
87	(87) IO-SURFACE-COS-TRAILING	COS/FUV COS/NUV	2	31-Dec-2025 11:02:08.0	yes

131 Total Orbits Used

ABSTRACT

Io is the most volcanically active body in the solar system and its escaping atmosphere is the dominant source of material for the Jovian magnetosphere. Despite decades of research and major advances in understanding individual processes and features, the connections between Io's volcanos, surface volatiles, atmosphere, magnetospheric plasma-interaction, and beyond to Io's neutral cloud, the Io Plasma Torus, and Jupiter's ionosphere, all remain difficult to quantify and understand. Juno, a polar orbiter originally designed to study Jupiter's deep interior, magnetosphere, and aurora, is now in an extended mission focused on studying the Galilean satellites. Juno's upcoming Io flybys in Cycle 31 offer an excellent opportunity for combining Juno's intensive in situ measurements with Earth-based remote sensing to advance our understanding of Io's role in driving coupled phenomena within the Jupiter system. Two flybys come within ~1500 km of Io, with a third more distant encounter at ~120,000 km. Our HST-Juno Io campaign performs numerous coordinated Io observations to take full advantage of this opportunity for combining in situ and remote sensing datasets within a comprehensive modeling framework (not otherwise possible until the late 2030's). We plan multi-spectral, multi-instrument HST observations of the following types: Io neutral cloud profiling and ansae stares, Io FUV aurora imaging, Io transit imaging, Io eclipse imaging

(with hot spot and time series studies), and Io surface mapping. Coordinated JWST MIRI/MRS IFU measurements of Io's 7.3 um SO2 band and newly detected 5 um features are requested for Juno's Sep. 2024 encounter (following plans for JWST program 4078).

OBSERVING DESCRIPTION

We identify five needed measurement types to investigate the five science themes. This implementation approach and scope has considered the schedulability of moving target observations, including the 2-orbit per visit constraint under 2-gyro mode. The first two Juno flybys in Dec. 2023 and Feb. 2024 approach closer to Io than the one in Sept. 2024. Hence the earlier encounters are higher priority and with more visits. The STScI help desk confirmed that PJ57 & PJ58 are not impacted by the South Atlantic Anomaly (SAA).

Io Neutral Cloud Profiling and Ansae Stares:

The Io neutral cloud profiling technique includes six sets of two nearly consecutive visits, each with two orbits STIS G140L 52x2 and two orbits of COS G130M. The STIS FUV measurements start at Io, step left of Io by 2" and then step right of Io by 2" for a view of its near-Io (<10 R_Io) neutral emissions in each of two consecutive orbits per visit. The two orbits provide radial profiles to enable characterization for hemispherical asymmetries near-Io hinted at (but indistinguishable) in previous data. In near-consecutive visits, COS 130M step-scans start on Io with high SNR and step along the orbital plane and perpendicular to it in the two respective orbits (if HST pitch and roll slew angles are required instead our large program is flexible in this way). Each step within the orbit has progressively longer exposures to provide similar error bars at each point along a power-law fall-off in distance (-0.025 R/RIo, as determined with New Horizons Alice spectral imaging to 1 R sensitivity; we expect better, down to ~0.1 R with COS). That is, ~1 min * 2N each for 0pt (on Io), 5 RIo, 10 RIo, 20 RIo, and 40 RIo, and then dwell at 80 RIo for the remainder of an HST orbit (up to 20 min). These times can be adjusted as informed by first visit (e.g., change 2N to 1.8N) and tailored for each scan direction. The COS time-tag mode allows data acquisition while slewing between steps (or possibly scan with decreasing angular velocity away from Io). The six visits cover Io at leading/trailing and sub-/anti-jovian orbital longitudes, with the leading and trailing repeated near the end of Cy31. Additional visits with Io at the east and west ansae, 2 orbits each, use the STIS G140M 1285 mode and 52x0.5 slit with four 0.5"-step positions covering Io to obtain spectrally separated images of neutral sulfur SI 125.1 nm and ionized SII 125.6 nm emissions for near-Io ionospheric chemistry modeling.

Four orbits with COS 130M are planned at each of two geometries targeting the east and west ansae of Io's orbit while Io is at the direct opposite ansa. These long stares determine the furthest extent of neutrals within the environment and their relation to the torus; previous data show ~1-3 R O & S signals over very large spatial scales, which needs better characterization. Another visit with two orbits is planned with COS G230L to constrain the Mg species in Io's atmosphere and trailing hemisphere plasma environment. To address the topic of where the Io neutral cloud environment leaves off and the Europa neutral cloud or tori dominates we plan identical COS G130M step-scan observation orthogonal pairs starting on Europa

but ranging out to 20 R_Europa instead and 2-orbit STIS G140L 52x2 context images. Total for neutral cloud mapping: 46 orbits.

Io FUV Aurora Imaging:
STIS G140L 52x2D1 images are planned closest in time as possible for each of the three Juno C/A events. Our early checks indicate that SAA-exclusions will not overlap with these key times. Three 2-orbit visits are planned for a series of 6 orbits covering the three C/A event times, with one visit likely shifted to follow or precede the SAA-exclusion time. The two consecutive 2-orbit visits cover more than half a synodic period of Jupiter's magnetic field orientation changing at Io, providing good temporal coverage of the rocking of the aurora equatorial spot locations for investigation the plasma-atmosphere interaction in detail; the additional near-consecutive 2-orbit visit completes the full synodic period coverage. For ease of scheduling within SAA constraints, just four orbits each are planned for Juno plasma sheet crossings on PJ59 in early March and PJ64 in mid-August, timed such that Io is exposed to the plasma probed earlier by Juno. Each of the 5 perijoves by Juno in the observable windows for Cy31 offers opportunities for joint Io aurora STIS imaging during both Juno-UVS Io footprint imaging and/or views of Io from Juno-UVS while in a radiation quite zone near Jupiter and ~6 R_J range. Two-orbit visits for 3 such occurrences are planned (with the 6 neutral cloud series also possibly available for coordination). Any orbits lost to gyro problems would best be replanned to extend the series during future events, as possible. Total for FUV auroral spot imaging: 32 orbits.

Io Transit Imaging:
With Io's 1.7 day orbital period roughly 60 (35) transit events are available early (late) in Cy31 (similarly but less so for eclipse events), with one and sometimes two HST orbits possible in each event. We search for plume gas variability in 4 events using STIS MAMA F25QTZ FUV imaging using the dither method implemented previously for Europa to obtain ~30 km/pix resolution elements with 1-orbit per event. Two additional orbits using the same longpass (>150 nm) F25QTZ filter would assess any faint auroral emission or disk reflectance PSF systematic features. Imaging mostly dust absorption at visible wavelengths, transit events near the beginning and end of Cy31 (1-orbit each) are planned with WFC3 filter sets (F225W, F280N, F336W, F343N, F390W, F475W, F555W). STIS NUV spectral imaging demonstrated SO2 and S2 absorption with G230LB. We plan four separate transit events using STIS G230M centered at c2095 & c2659 for mapping the deepest SO2 & S2 absorption features, respectively (2 events each). The 52x0.5 slit is used with a set of five or more 0.1" step-offsets, expecting to improve on previous resolutions and noise (using NUV MAMA vs CCD). Lastly, 4 transit events use the COS 225M mode to measure SO2 absorption features (210-234 nm); these include one or two off-Io pointings at ~3 R_Io and/or 5 RIo (as time allows) and also a pointing farther away to provide the Jupiter background divisor spectrum (i.e., pointing back towards the location on Jupiter recently transited) in 1-orbit. A fifth orbit observes Io in sunlight with COS G225M just before or after transit to characterize its disk spectrum for comparison with the off-Io data. Total for Io transit imaging: 17 orbits.

Io Eclipse Imaging, Loki Hot Spot, and Time Series:

Observations in Jupiter's shadow offer the best ability to image Loki's hot-spot thermal and auroral emissions without the overwhelming component of reflected sunlight. The STIS G750L 52x0.1E1 slit targets the Loki hot spot, staring at ~13N,309W for one orbit and performing a three-step scan across it in an orbit during a different event to provide partial mapping of additional hot spots and/or provide an improved spectral background removal when extracting the black-body spectral reddening. The two orbits described occur for the post-ingress geometry to optimize pointing. For auroral SO2 and potentially S2 studies one orbit with STIS G430M c4706 52x2 targets a not yet confirmed S2 aurora spectral peak in previous G430L eclipse observations. Io Na doublet auroral images overlap when using the 52x2 slit, so an orbit with the G750M c6094 52x0.5E1 mode uses three steps across Io to image sodium (~2kR) simultaneously with oxygen red-line 630 nm emissions (~20-30kR). Two additional orbits search for auroral H-alpha and K features, with G750M 52x2E1 at c6768 and c7795, respectively. Angular separations of >20" from Jupiter are needed to avoid Jupiter straylight. While COS G130M and G225M spectra of Io in and out of eclipse have been performed (PID=11539), Io COS G230L c3000 (PID=12041) and STIS G230LB spectra have only been obtained while in sunlight. Two visits viewing pairs of orbits, one in eclipse and one just before ingress and one paired just after egress with COS G230L c2635 will search for changes to SO2, SO, and S2 emissions with time in and out of shadow. Lastly, one orbit of STIS G230LB eclipse imaging identifies the locations of any emissions searched for more sensitively with the COS G230L eclipse spectra. Total for Io eclipse spectra & imaging: 11 orbits.

Io Surface Mapping:

To search for changes in Io's surface coloration and the associated spectral features resulting from active volcanism we plan a few sets of visits spanning HST wavelengths. STIS G430L and G750L modes use the 52x0.05E1 aperture with 0.025" steps across Io's 0.9-1.2" disk, targeting the leading and trailing hemispheres largely spanned by PJ57 & PJ58 (planned later in Cy31), complementing the previous geometries of PID=15925, and capturing the entire Pele region (19S,225W) all with ~2" better spatial resolution. STIS G140L FUV spectral maps similarly use the 52x0.2D1 slit with 0.1" steps to cover the full disk with two orbits (needed for SNR) in each of 4 visits centered at orbital longitudes 45, 135, 225, and 315 deg. COS G130M c1055 mode spectra of Io's leading and trailing hemispheres investigate Io's extreme-UV albedo ratios with two orbits each. The two COS G230L observations pre-ingress and post-egress described above complete the spectral coverage story, but primarily indicate molecular gas absorptions rather than albedo. Total for Io surface mapping: 16 orbits.

Visit

Proposal 17470, Io Neutral Cloud Sub-Jupiter (01), completed Wed Dec 31 16:02:09 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; BETWEEN 04-NOV-2024:19:28:00 AND 04-NOV-2024:20:25:00; GROUP 01,1A WITHIN 8.1 Orbits; VISIBILITY INTERVAL 40.6 M

Comments: Scans are implemented using POS TARG positions with X = [0",2.5",5",10",20",40"] and Y = 0" for the second orbit, and of X = 0" and Y = [0",2.4",5",10",20",40"] for the first orbit. (One arcsecond is roughly two R_Io)

We can change the signs of the x or y as needed to help scheduling (e.g., avoiding Jupiter in sub- and anti- cases). Since the POS TARG offsets occur in HST coordinates rather than ecliptic or Jupiter satellite plane coordinates, the orientat and NPPA of the spacecraft will naturally vary for all the different sets. That'll be ok, and precludes us from specifying negative offest values.

Diagnostics

(Io Neutral Cloud Sub-Jupiter (01)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions at a given COS cenwave (or 2 positions for certain exception cases). See extended explanation in the diagnostic browser.

(Io Neutral Cloud Sub-Jupiter (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(Io Neutral Cloud Sub-Jupiter (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(Io Neutral Cloud Sub-Jupiter (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(Io Neutral Cloud Sub-Jupiter (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(Io Neutral Cloud Sub-Jupiter (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(Io Neutral Cloud Sub-Jupiter (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(Io Neutral Cloud Sub-Jupiter (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(Io Neutral Cloud Sub-Jupiter (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(Exposure 2 (Sequence 2-4 Non-Int in Io Neutral Cloud Sub-Jupiter (01))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 3 (Sequence 2-4 Non-Int in Io Neutral Cloud Sub-Jupiter (01))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 4 (Sequence 2-4 Non-Int in Io Neutral Cloud Sub-Jupiter (01))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 5 (Sequence 5-7 Non-Int in Io Neutral Cloud Sub-Jupiter (01))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 6 (Sequence 5-7 Non-Int in Io Neutral Cloud Sub-Jupiter (01))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 7 (Sequence 5-7 Non-Int in Io Neutral Cloud Sub-Jupiter (01))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Io Neutral Cloud Sub-Jupiter (01)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	IO-NCLOUD-SUBJUPITER	STD=JUPITER	STD=IO		NOT OCC OF IO-NCLOUD-SUBJUPITER BY JUPITER FROM EARTH, SEP OF IO-NCLOUD-SUBJUPITER EUROPA FROM EARTH GT 10", SEP OF IO-NCLOUD-SUBJUPITER GANYMEDE FROM EARTH GT 10", SEP OF IO-NCLOUD-SUBJUPITER CALLISTO FROM EARTH GT 10", OLG OF IO-NCLOUD-SUBJUPITER BETWEEN 315 45	EARTH

Comments: Start at Io and scan both sides around it with STIS and in one direction away from it with COS to determine extent of detectable emissions several tens of arcseconds away from Io
Description=Io Neutral Cloud targeted STIS Step-scan set of three 2 arcsecond steps and a Sub-Jupiter pointed COS-Scan pattern
Extended=YES

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.sa.1010061)	(1) IO-NCLOUD-SUBJUPITER	COS/NUV, ACQ/SEARCH, PSA	G230L 3000 A	SCAN-SIZE=3; CENTER=FLUX-WT-FLR			1 Secs (1 Secs) *[==>]*	*[1]*
	Comments: This acquisition mode/setup was used successfully used in program 15147								
2	(COS.sp.1366889)	(1) IO-NCLOUD-SUBJUPITER	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,0	Sequence 2-4 Non-Int in Io Neutral Cloud Sub-Jupiter (01)	180 Secs (180 Secs) *[==>180.0 Secs]*	*[1]*
	Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up. *Notes from ProjID=11539:* *ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.* *Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.* *The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments settings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.* *ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.*								
3	(COS.sp.1366889)	(1) IO-NCLOUD-SUBJUPITER	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,5	Sequence 2-4 Non-Int in Io Neutral Cloud Sub-Jupiter (01)	359 Secs (312 Secs) *[==>312.0 Secs]*	*[1]*
	Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up. *Notes from ProjID=11539:* *ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.* *Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.* *The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments settings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.* *ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.*								
4	(COS.sp.1366889)	(1) IO-NCLOUD-SUBJUPITER	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,15	Sequence 2-4 Non-Int in Io Neutral Cloud Sub-Jupiter (01)	600 Secs (540 Secs) *[==>540.0 Secs]*	*[1]*
	Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up. *Notes from ProjID=11539:* *ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.* *Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.* *The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments settings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.* *ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.*								

5	(COS.sp.1366889)	(1) IO-NCLOUD-SUBJUPITER	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,0	Sequence 5-7 Non-Int in Io Neutral Cloud Sub-Jupiter (01)	191 Secs (180 Secs) *[==>180.0 Secs]*	***[2]***

Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up.

Notes from ProjID=11539:
ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.
Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.

The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments settings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.

ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.

6	(COS.sp.1366889)	(1) IO-NCLOUD-SUBJUPITER	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 10,0	Sequence 5-7 Non-Int in Io Neutral Cloud Sub-Jupiter (01)	700 Secs (624 Secs) *[==>624.0 Secs]*	***[2]***

Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up.

Notes from ProjID=11539:
ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.
Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.

The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments settings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.

ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.

7	(COS.sp.1366889)	(1) IO-NCLOUD-SUBJUPITER	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 20,0	Sequence 5-7 Non-Int in Io Neutral Cloud Sub-Jupiter (01)	900 Secs (800 Secs) *[==>800.0 Secs]*	***[2]***

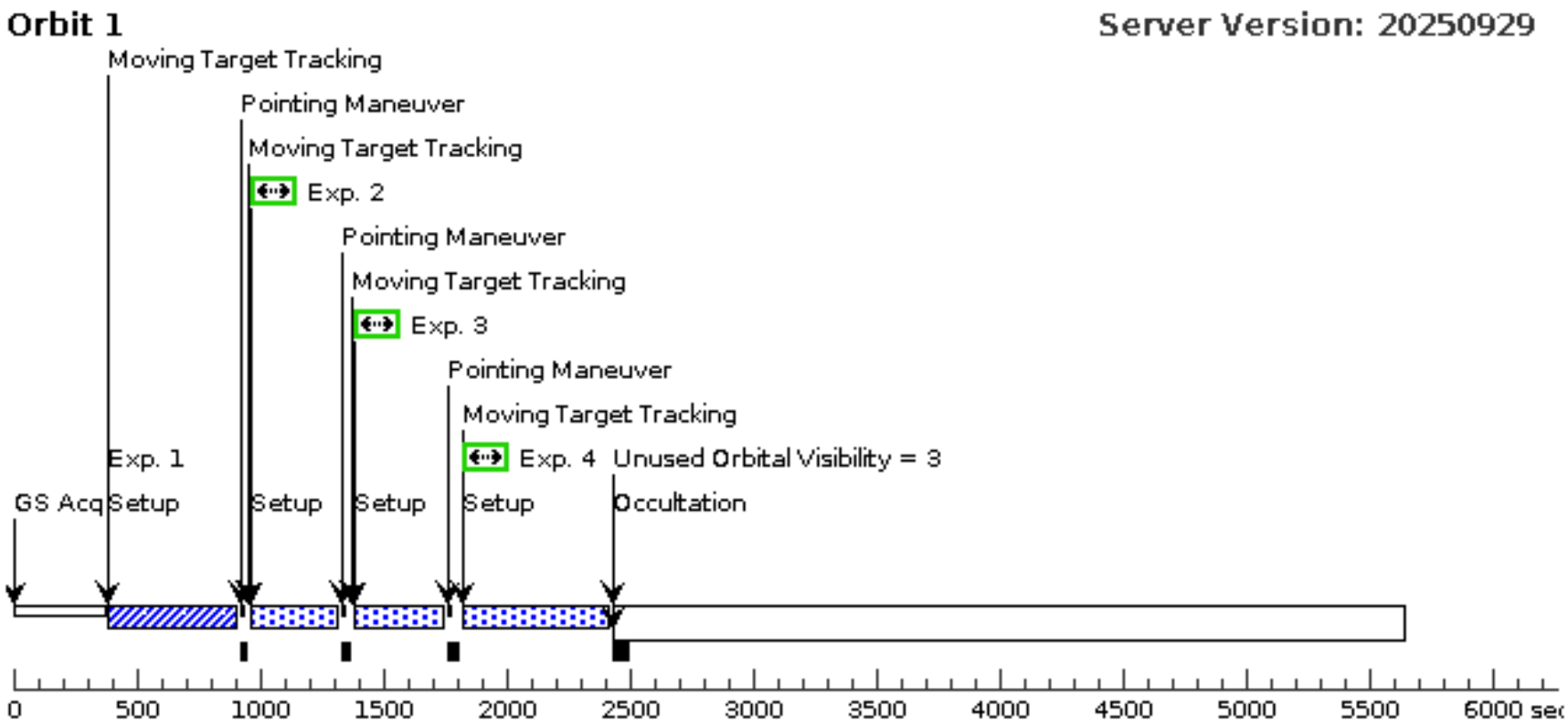
Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up.

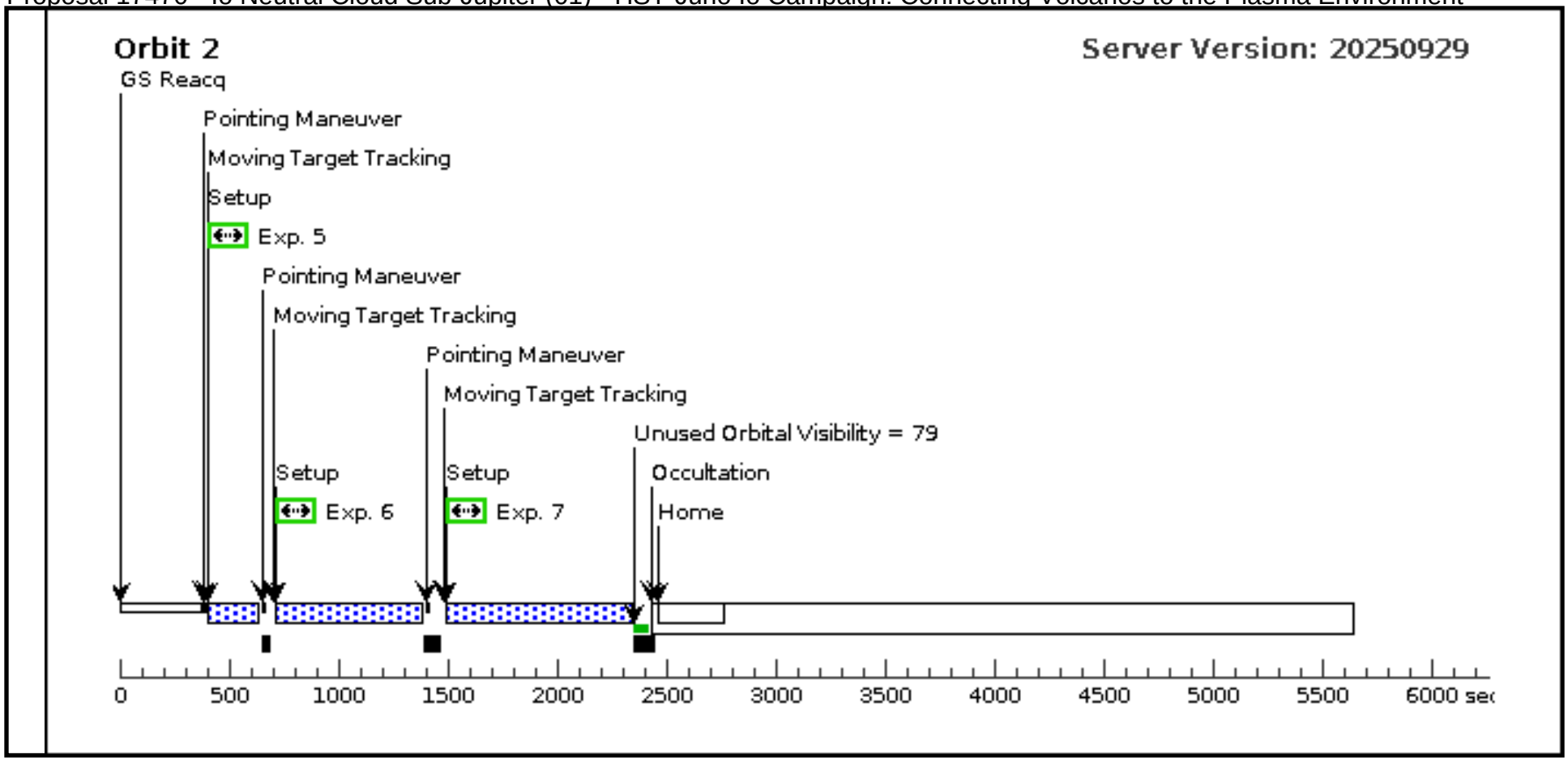
Notes from ProjID=11539:
ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.
Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.

The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments settings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.

ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.

Orbit Structure




Orbit 2
Server Version: 20250929
GS Reacq
Pointing Maneuver
Moving Target Tracking
Setup
Exp. 5
Pointing Maneuver
Moving Target Tracking
Pointing Maneuver
Moving Target Tracking
Unused Orbital Visibility = 79
Setup
Exp. 6
Setup
Exp. 7
Occultation
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17470, Io Neutral Cloud Sub-Jupiter (1A), completed Wed Dec 31 16:02:09 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%; BETWEEN 04-NOV-2024:13:05:00 AND 04-NOV-2024:14:05:00

Diagnostics

(STIS 52x2 stare (1A.002)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(STIS 52x2 stare (1A.003)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(Io Neutral Cloud Sub-Jupiter (1A)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(1)	IO-NCLOUD-SUBJUPITER	STD=JUPITER	STD=IO		NOT OCC OF IO-NCLOUD-SUBJUPITER BY JUPITER FROM EARTH, SEP OF IO-NCLOUD-SUBJUPITER EUROPA FROM EARTH GT 10", SEP OF IO-NCLOUD-SUBJUPITER GANYMEDE FROM EARTH GT 10", SEP OF IO-NCLOUD-SUBJUPITER CALLISTO FROM EARTH GT 10", OLG OF IO-NCLOUD-SUBJUPITER BETWEEN 315 45	EARTH

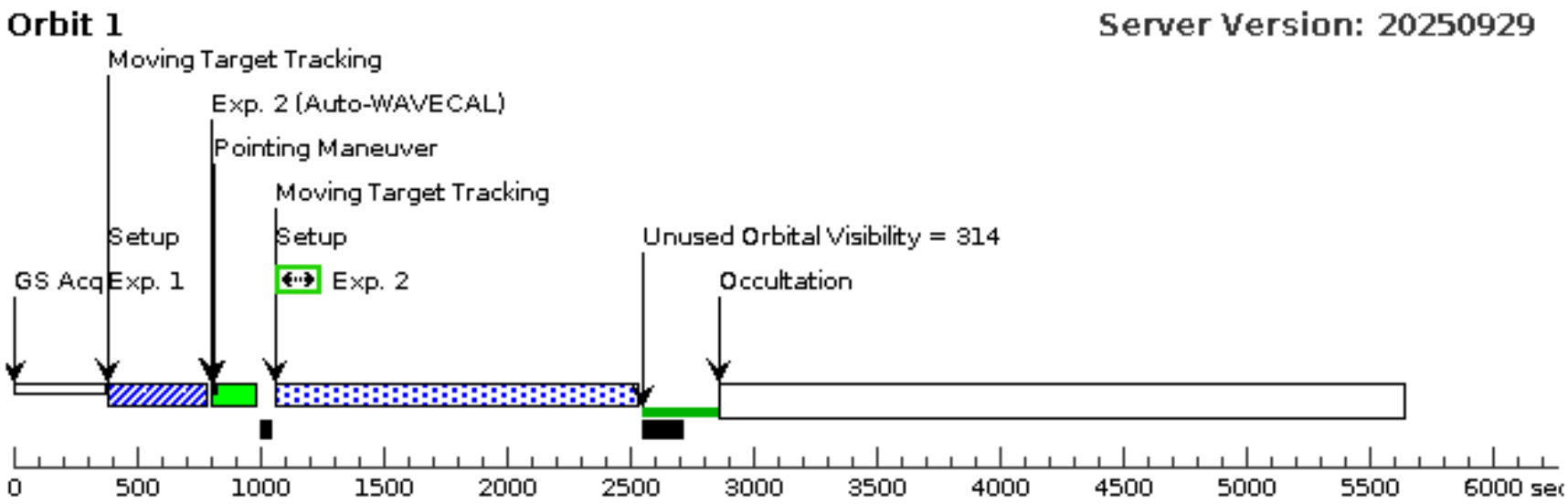
Comments: Start at Io and scan both sides around it with STIS and in one direction away from it with COS to determine extent of detectable emissions several tens of arcseconds away from Io
Description=Io Neutral Cloud targeted STIS Step-scan set of three 2 arcsecond steps and a Sub-Jupiter pointed COS-Scan pattern
Extended=YES

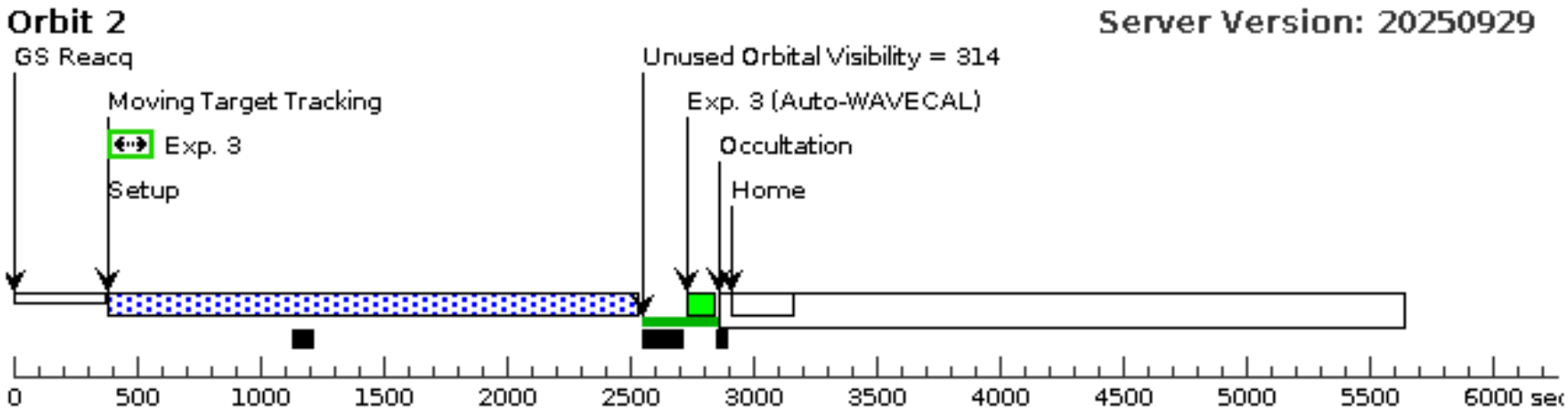
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Acquisition	(1) IO-NCLOUD-SUBJUPITER	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=25; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER			0.1 Secs (0.1 Secs) *[==>]*	***[1]***
2	STIS 52x2 stare	(1) IO-NCLOUD-SUBJUPITER	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG null,-5.0	Sequence 2-2 Non-Int in Io Neutral Cloud Sub-Jupiter (1A)	1416 Secs (1416 Secs) *[==>]*	***[1]***
3	STIS 52x2 stare	(1) IO-NCLOUD-SUBJUPITER	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG null,-5.0	Sequence 3-3 Non-Int in Io Neutral Cloud Sub-Jupiter (1A)	2136 Secs (2136 Secs) *[==>]*	***[2]***

Comments: At the time of PJ57 (2023-12-31), Io's diameter is 1.125 arcesc. Thus the checkbox is set to 1.125/0.05 = 25 pixels here.

Orbit Structure





Visit		
	Proposal 17470, Io Neutral Cloud Leading (02), completed	Wed Dec 31 16:02:09 GMT 2025
	Diagnostic Status: Warning	
	Scientific Instruments: COS/FUV, COS/NUV	
	Special Requirements: SCHED 100%; BEFORE 07-MAR-2024:00:00:00	

Diagnostics

(Io Neutral Cloud Leading (02)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions at a given COS cenwave (or 2 positions for certain exception cases). See extended explanation in the diagnostic browser.

(Io Neutral Cloud Leading (02)) Warning (Orbit Planner): GS ACQ SCENARIO REQUESTED INCONSISTENT WITH VISIT GYRO MODE

(Io Neutral Cloud Leading (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(Io Neutral Cloud Leading (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(Io Neutral Cloud Leading (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

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(Io Neutral Cloud Leading (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(Io Neutral Cloud Leading (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(Exposure 1 (Io Neutral Cloud Leading (02)) special requirements) Warning (Form): The specified GS Acq Scenario is not in the current list of valid scenarios.

(Exposure 2 (Sequence 2-7 Non-Int in Io Neutral Cloud Leading (02))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 3 (Sequence 2-7 Non-Int in Io Neutral Cloud Leading (02))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 4 (Sequence 2-7 Non-Int in Io Neutral Cloud Leading (02))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 5 (Sequence 2-7 Non-Int in Io Neutral Cloud Leading (02))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 6 (Sequence 2-7 Non-Int in Io Neutral Cloud Leading (02))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 7 (Sequence 2-7 Non-Int in Io Neutral Cloud Leading (02))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 8 (Sequence 8-13 Non-Int in Io Neutral Cloud Leading (02))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 9 (Sequence 8-13 Non-Int in Io Neutral Cloud Leading (02))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 10 (Sequence 8-13 Non-Int in Io Neutral Cloud Leading (02))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 11 (Sequence 8-13 Non-Int in Io Neutral Cloud Leading (02))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 12 (Sequence 8-13 Non-Int in Io Neutral Cloud Leading (02))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 13 (Sequence 8-13 Non-Int in Io Neutral Cloud Leading (02))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Io Neutral Cloud Leading (02)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(2)	IO-NCLOUD-LEADING	STD=JUPITER	STD=IO		NOT OCC OF IO-NCLOUD-LEADING BY JUPITER FROM EARTH, SEP OF IO-NCLOUD-LEADING EUROPA FROM EARTH GT 10", SEP OF IO-NCLOUD-LEADING GANYMEDE FROM EARTH GT 10", SEP OF IO-NCLOUD-LEADING CALLISTO FROM EARTH GT 10", OLG OF IO-NCLOUD-LEADING BETWEEN 45 135	EARTH

Comments: Description=Io Neutral Cloud STIS Step-scan & COS-Scan viewing Io's leading hemisphere
Extended=YES

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.sa.1010061)	(2) IO-NCLOUD-LEADING	COS/NUV, ACQ/SEARCH, BOA	G230L 3000 A	SCAN-SIZE=3; CENTER=FLUX-WT-FLR	GS ACQ SCENARIO BASE1BR		1 Secs (1 Secs) *[==>]*	*[1]*
2	(COS.sp.1366889)	(2) IO-NCLOUD-LEADING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,0	Sequence 2-7 Non-In t in Io Neutral Cloud Leading (02)	60 Secs (60 Secs) *[==>]*	*[1]*
3	(COS.sp.1366889)	(2) IO-NCLOUD-LEADING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,2.5	Sequence 2-7 Non-In t in Io Neutral Cloud Leading (02)	68 Secs (68 Secs) *[==>]*	*[1]*
4	(COS.sp.1366889)	(2) IO-NCLOUD-LEADING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,5	Sequence 2-7 Non-In t in Io Neutral Cloud Leading (02)	77 Secs (77 Secs) *[==>]*	*[1]*

Comments: This acquisition mode/setup was used successfully used in program 15147

Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up.

Notes from ProjID=11539:
ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.
Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.

The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments se ttings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.

ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.

Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up.

Notes from ProjID=11539:
ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.
Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.

The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments se ttings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.

ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.

Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up.

Notes from ProjID=11539:
ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.
Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.

The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments se ttings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.

ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.

5	(COS.sp.1366889)	(2) IO-NCLOUD-LEADING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,10	Sequence 2-7 Non-Int in Io Neutral Cloud Leading (02)	98 Secs (98 Secs) *[==>]*	***[1]***

Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up.

Notes from ProjID=11539:
ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.
Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.

The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments settings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.

ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.

6	(COS.sp.1366889)	(2) IO-NCLOUD-LEADING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,20	Sequence 2-7 Non-Int in Io Neutral Cloud Leading (02)	163 Secs (163 Secs) *[==>]*	***[1]***

Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up.

Notes from ProjID=11539:
ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.
Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.

The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments settings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.

ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.

7	(COS.sp.1366889)	(2) IO-NCLOUD-LEADING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,40	Sequence 2-7 Non-Int in Io Neutral Cloud Leading (02)	306 Secs (306 Secs) *[==>]*	***[1]***

Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up.

Notes from ProjID=11539:
ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.
Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.

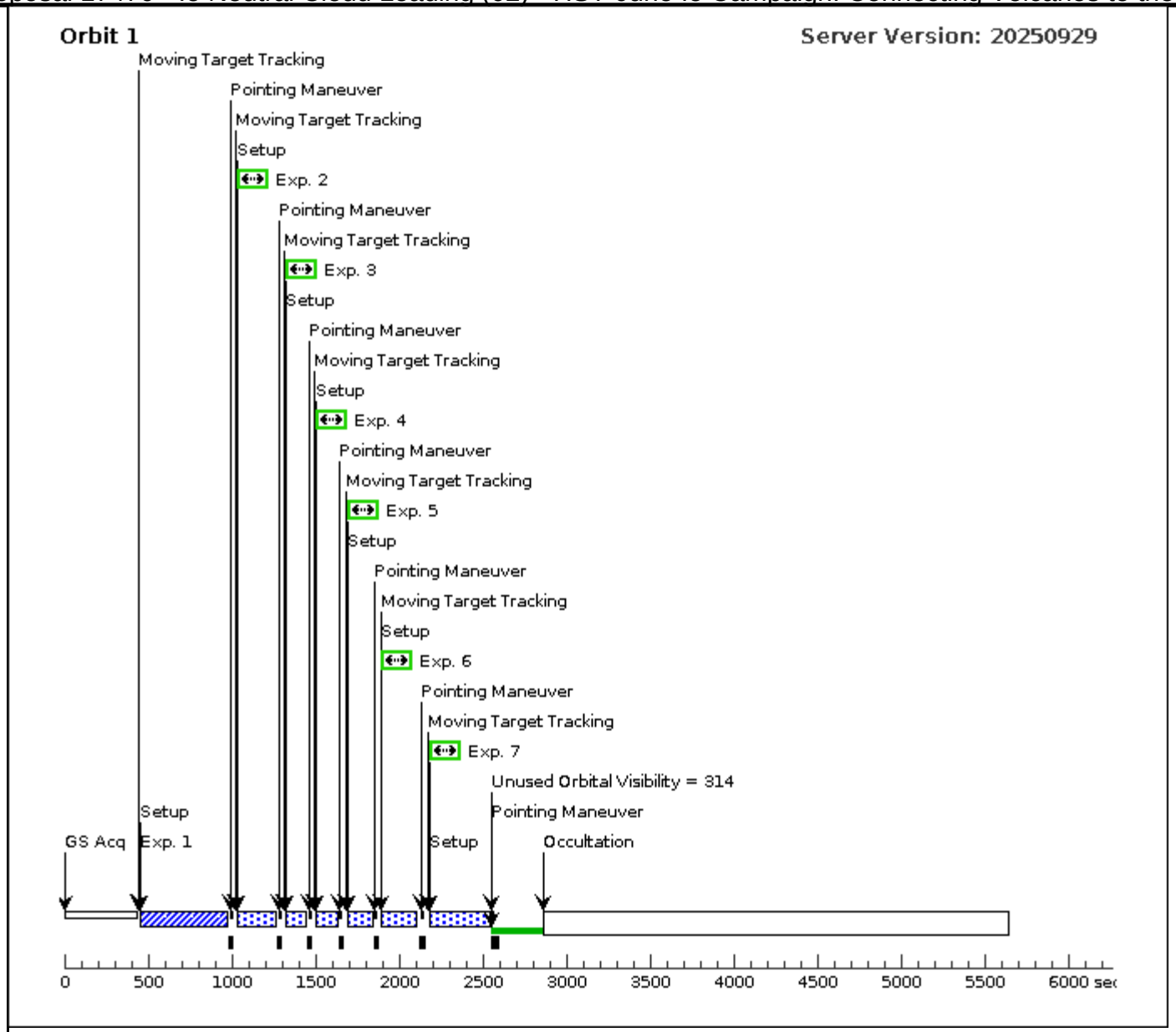
The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments settings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.

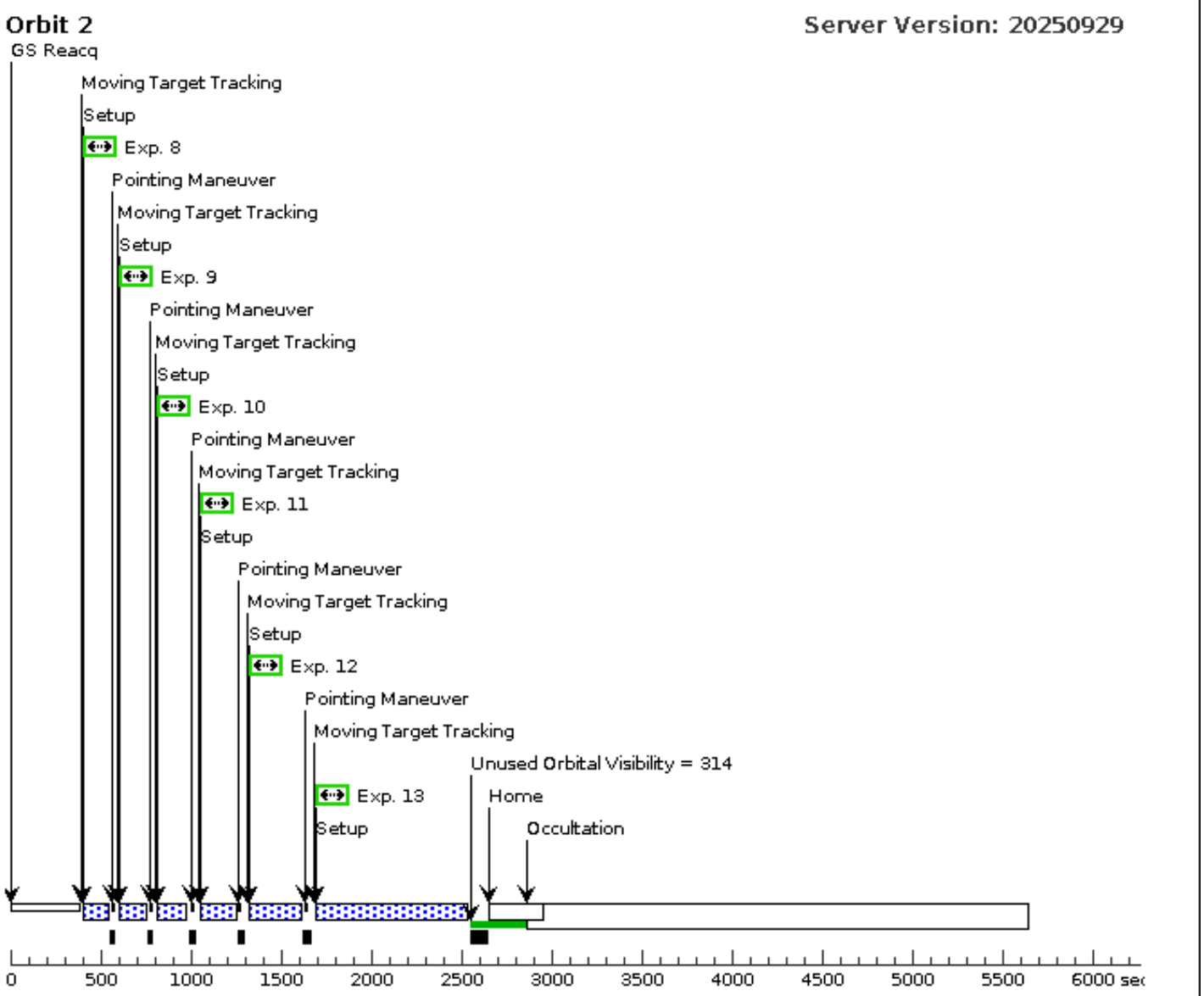
ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.

8	(COS.sp.1366889)	(2) IO-NCLOUD-LEADING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,0	Sequence 8-13 Non-Int in Io Neutral Cloud Leading (02)	90 Secs (90 Secs) *[==>]*	***[2]***
9	(COS.sp.1366889)	(2) IO-NCLOUD-LEADING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 2.5,0	Sequence 8-13 Non-Int in Io Neutral Cloud Leading (02)	102 Secs (102 Secs) *[==>]*	***[2]***
10	(COS.sp.1366889)	(2) IO-NCLOUD-LEADING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 5,0	Sequence 8-13 Non-Int in Io Neutral Cloud Leading (02)	115 Secs (115 Secs) *[==>]*	***[2]***

	11	(COS.sp.1366889)	(2) IO-NCLOUD-LEADING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 10,0	Sequence 8-13 Non-Int in Io Neutral Cloud Leading (02)	148 Secs (148 Secs)	
									[==>]	***[2]***
	12	(COS.sp.1366889)	(2) IO-NCLOUD-LEADING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 20,0	Sequence 8-13 Non-Int in Io Neutral Cloud Leading (02)	244 Secs (244 Secs)	
									[==>]	***[2]***
	13	(COS.sp.1366889)	(2) IO-NCLOUD-LEADING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 40,0	Sequence 8-13 Non-Int in Io Neutral Cloud Leading (02)	795 Secs (795 Secs)	
									[==>]	***[2]***

Orbit Structure




Orbit 2
Server Version: 20250929
GS Reacq
Moving Target Tracking
Setup
Exp. 8
Pointing Maneuver
Moving Target Tracking
Setup
Exp. 9
Pointing Maneuver
Moving Target Tracking
Setup
Exp. 10
Pointing Maneuver
Moving Target Tracking
Exp. 11
Setup
Pointing Maneuver
Moving Target Tracking
Setup
Exp. 12
Pointing Maneuver
Moving Target Tracking
Unused Orbital Visibility = 314
Exp. 13
Home
Setup
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17470, Io Neutral Cloud Leading (2A), completed Wed Dec 31 16:02:09 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%

Comments: Updated to remove step pattern in orbit 1, owing to lack of exposure times following TA

Diagnostics

(Io Neutral Cloud Leading (2A)) Warning (Orbit Planner): GS ACQ SCENARIO REQUESTED INCONSISTENT WITH VISIT GYRO MODE

(Acquisition (2A.001) special requirements) Warning (Form): The specified GS Acq Scenario is not in the current list of valid scenarios.

(STIS 52x2 stare (2A.002)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(STIS 52x2 three slit-step pattern (2A.003)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(Io Neutral Cloud Leading (2A)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	Pattern Type=STIS-PERP-TO-SLIT Purpose=MOSAIC Number Of Points=3 Point Spacing=2.0 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=0.0 Angle Between Sides= Center Pattern=true		(3)

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(2)	IO-NCLOUD-LEADING	STD=JUPITER	STD=IO		NOT OCC OF IO-NCLOUD-LEADING BY JUPITER FROM EARTH, SEP OF IO-NCLOUD-LEADING EUROPA FROM EARTH GT 10", SEP OF IO-NCLOUD-LEADING GANYMEDE FROM EARTH GT 10", SEP OF IO-NCLOUD-LEADING CALLISTO FROM EARTH GT 10", OLG OF IO-NCLOUD-LEADING BETWEEN 45 135	EARTH

Comments: Description=Io Neutral Cloud STIS Step-scan & COS-Scan viewing Io's leading hemisphere
Extended=YES

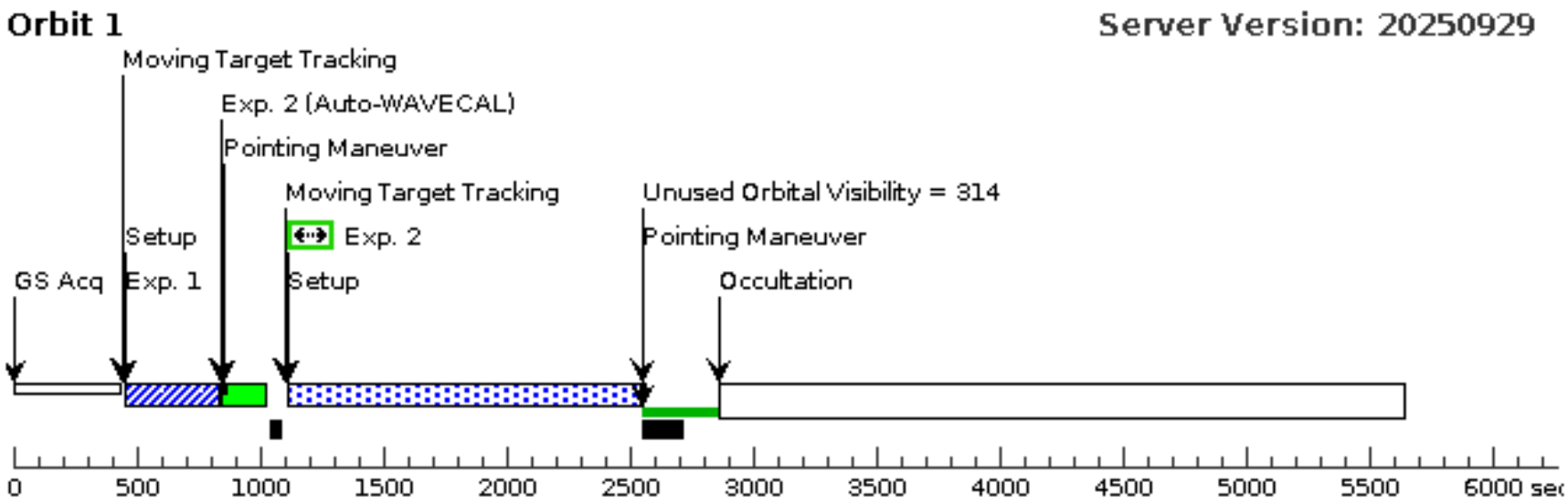
Exposures

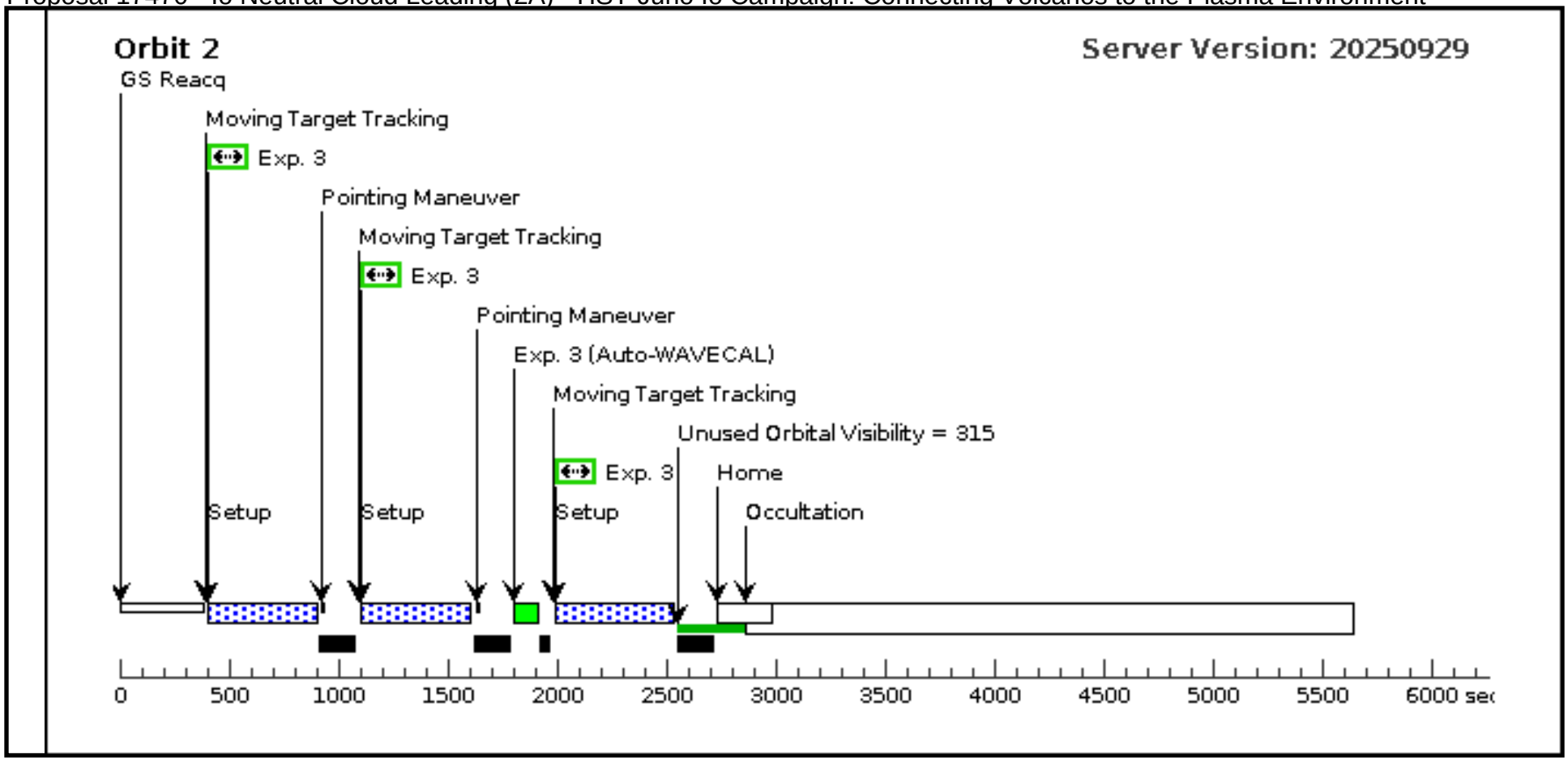
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Acquisition	(2) IO-NCLOUD-LEADING	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=23; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER	GS ACQ SCENARIO BASE1BR		0.1 Secs (0.1 Secs) *[==>]*	***[1]***
2	STIS 52x2 stare	(2) IO-NCLOUD-LEADING	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750		Sequence 2-2 Non-Int in Io Neutral Cloud Leading (2A)	1373 Secs (1373 Secs) *[==>]*	***[1]***
3	STIS 52x2 three slit-step pattern	(2) IO-NCLOUD-LEADING	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750		Sequence 3-3 Non-Int in Io Neutral Cloud Leading (2A) Pattern 2, Exps 3-3 in Sequence 3-3 Non-Int in Io Neutral Cloud Leading (2A) (2)	490 Secs (1470 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[2]***

Comments: At the time of PJ57 (2023-12-31), Io's diameter is 1.125 arcesc. Thus the checkbox is set to 1.125/0.05 = 25 pixels here.

On Feb. 24-25, 2024 Io's diameter is 0.95 arcsec. Thus the checkbox is set to 0.95/0.05 = 23 pixels here.

Orbit Structure




Orbit 2
Server Version: 20250929
GS Reacq
Moving Target Tracking
Exp. 3
Pointing Maneuver
Moving Target Tracking
Exp. 3
Pointing Maneuver
Exp. 3 (Auto-WAVECAL)
Moving Target Tracking
Unused Orbital Visibility = 315
Exp. 3
Home
Setup
Setup
Setup
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17470, Io Neutral Cloud Anti-Jupiter (03), completed Wed Dec 31 16:02:09 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; BETWEEN 05-NOV-2024:09:35:00 AND 05-NOV-2024:10:35:00

Diagnostics

(Io Neutral Cloud Anti-Jupiter (03)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions at a given COS cenwave (or 2 positions for certain exception cases). See extended explanation in the diagnostic browser.

(Io Neutral Cloud Anti-Jupiter (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(Io Neutral Cloud Anti-Jupiter (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(Io Neutral Cloud Anti-Jupiter (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(Io Neutral Cloud Anti-Jupiter (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(Io Neutral Cloud Anti-Jupiter (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(Io Neutral Cloud Anti-Jupiter (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(Io Neutral Cloud Anti-Jupiter (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(Io Neutral Cloud Anti-Jupiter (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(Exposure 2 (Sequence 2-4 Non-Int in Io Neutral Cloud Anti-Jupiter (03))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 3 (Sequence 2-4 Non-Int in Io Neutral Cloud Anti-Jupiter (03))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 4 (Sequence 2-4 Non-Int in Io Neutral Cloud Anti-Jupiter (03))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 5 (Sequence 5-7 Non-Int in Io Neutral Cloud Anti-Jupiter (03))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 6 (Sequence 5-7 Non-Int in Io Neutral Cloud Anti-Jupiter (03))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 7 (Sequence 5-7 Non-Int in Io Neutral Cloud Anti-Jupiter (03))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Io Neutral Cloud Anti-Jupiter (03)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(3)	IO-NCLOUD-ANTIJUPITER	STD=JUPITER	STD=IO		NOT OCC OF IO-NCLOUD-ANTIJUPITER BY JUPITER FROM EARTH, SEP OF IO-NCLOUD-ANTIJUPITER EUROPA FROM EARTH GT 10", SEP OF IO-NCLOUD-ANTIJUPITER GANYMEDE FROM EARTH GT 10", SEP OF IO-NCLOUD-ANTIJUPITER CALLISTO FROM EARTH GT 10", OLG OF IO-NCLOUD-ANTIJUPITER BETWEEN 135 225	EARTH

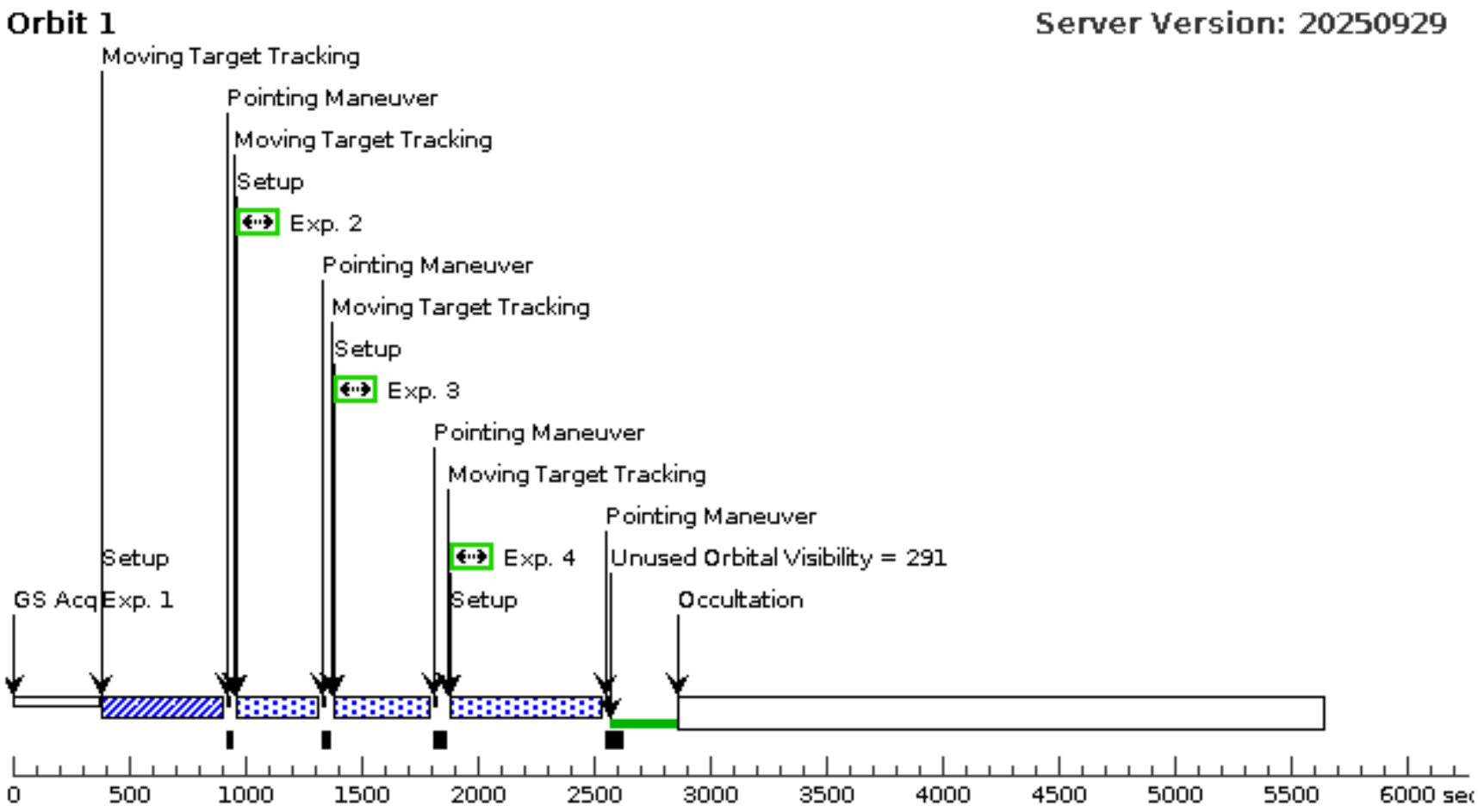
Comments: Description=Io Neutral Cloud STIS Step-scan & COS-Scan viewing Io's anti-Jupiter hemisphere
Extended=YES

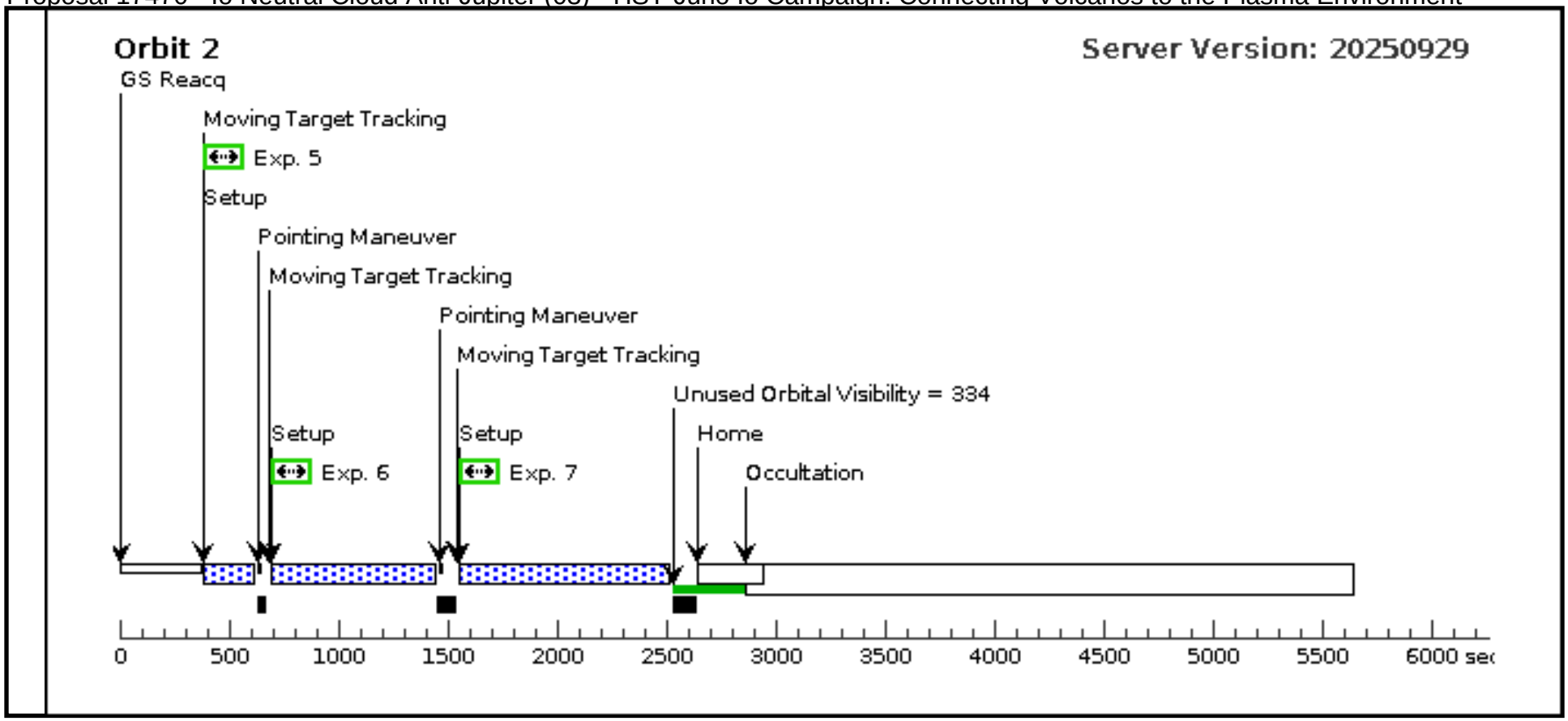
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.sa.1010061)	(3) IO-NCLOUD-ANTIJUPITER	COS/NUV, ACQ/SEARCH, PSA	G230L 3000 A	SCAN-SIZE=3; CENTER=FLUX-WT-FLR			1 Secs (1 Secs) *[==>]*	*[1]*
Comments: This acquisition mode/setup was used successfully used in program 15147									
2	(COS.sp.1366889)	(3) IO-NCLOUD-ANTIJUPITER	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,0	Sequence 2-4 Non-In t in Io Neutral Cloud Anti-Jupiter (03)	60 Secs (180 Secs) *[==>180 Secs]*	*[1]*
Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up. *Notes from ProjID=11539:* *ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.* *Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.* *The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments se ttings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.* *ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.*									
3	(COS.sp.1366889)	(3) IO-NCLOUD-ANTIJUPITER	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,5	Sequence 2-4 Non-In t in Io Neutral Cloud Anti-Jupiter (03)	68 Secs (359 Secs) *[==>359.0 Secs]*	*[1]*
Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up. *Notes from ProjID=11539:* *ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.* *Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.* *The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments se ttings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.* *ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.*									
4	(COS.sp.1366889)	(3) IO-NCLOUD-ANTIJUPITER	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,15	Sequence 2-4 Non-In t in Io Neutral Cloud Anti-Jupiter (03)	77 Secs (600 Secs) *[==>600.0 Secs]*	*[1]*
Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up. *Notes from ProjID=11539:* *ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.* *Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.* *The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments se ttings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.* *ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.*									
5	(COS.sp.1366889)	(3) IO-NCLOUD-ANTIJUPITER	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,0	Sequence 5-7 Non-In t in Io Neutral Cloud Anti-Jupiter (03)	90 Secs (180 Secs) *[==>180 Secs]*	*[2]*
6	(COS.sp.1366889)	(3) IO-NCLOUD-ANTIJUPITER	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 10,0	Sequence 5-7 Non-In t in Io Neutral Cloud Anti-Jupiter (03)	102 Secs (700 Secs) *[==>700 Secs]*	*[2]*

	7	(COS.sp.1366889)	(3) IO-NCLOUD-ANTIJUPITER	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 20,0	Sequence 5-7 Non-Int in Io Neutral Cloud Anti-Jupiter (03)	115 Secs (911 Secs) *[==>911.0 Secs]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20250929
GS Reacq
Moving Target Tracking
Exp. 5
Setup
Pointing Maneuver
Moving Target Tracking
Pointing Maneuver
Moving Target Tracking
Unused Orbital Visibility = 334
Setup
Setup
Home
Exp. 6
Exp. 7
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17470, Io Neutral Cloud Anti-Jupiter (3A), completed Wed Dec 31 16:02:09 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%; BETWEEN 05-NOV-2024:15:55:00 AND 05-NOV-2024:16:55:00

Diagnostics

(STIS 52x2 stare (3A.002)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(STIS 52x2 stare (3A.003)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(Io Neutral Cloud Anti-Jupiter (3A)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(3)	IO-NCLOUD-ANTIJUPITER	STD=JUPITER	STD=IO		NOT OCC OF IO-NCLOUD-ANTIJUPITER BY JUPITER FROM EARTH, SEP OF IO-NCLOUD-ANTIJUPITER EUROPA FROM EARTH GT 10", SEP OF IO-NCLOUD-ANTIJUPITER GANYMEDE FROM EARTH GT 10", SEP OF IO-NCLOUD-ANTIJUPITER CALLISTO FROM EARTH GT 10", OLG OF IO-NCLOUD-ANTIJUPITER BETWEEN 135 225	EARTH

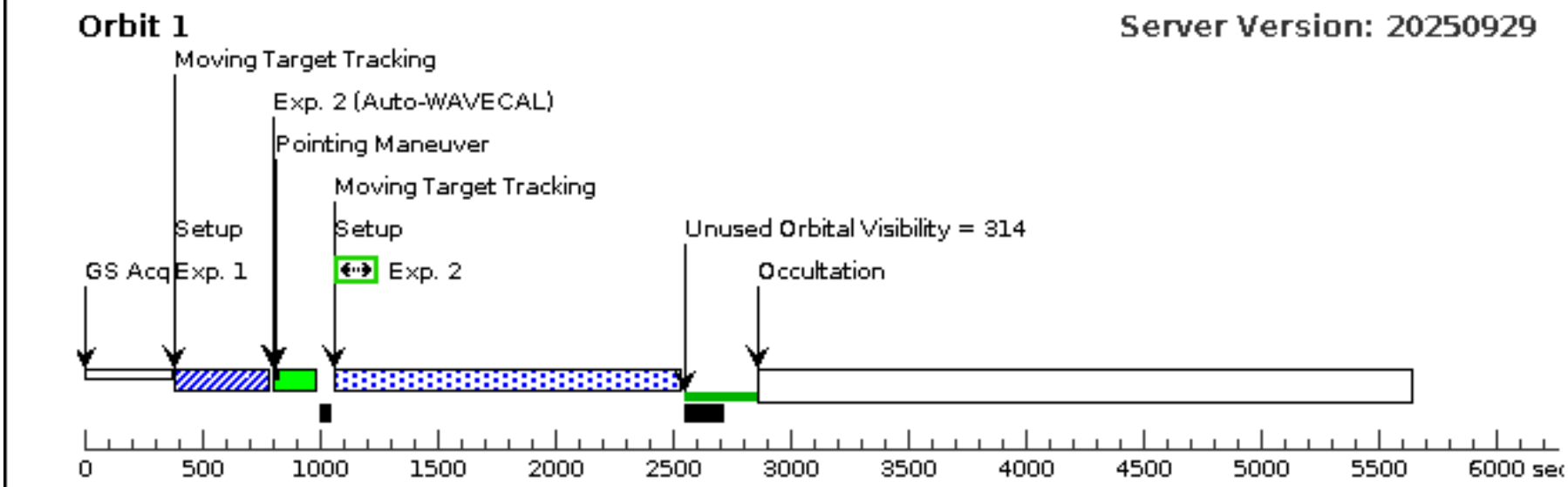
Comments: Description=Io Neutral Cloud STIS Step-scan & COS-Scan viewing Io's anti-Jupiter hemisphere Extended=YES

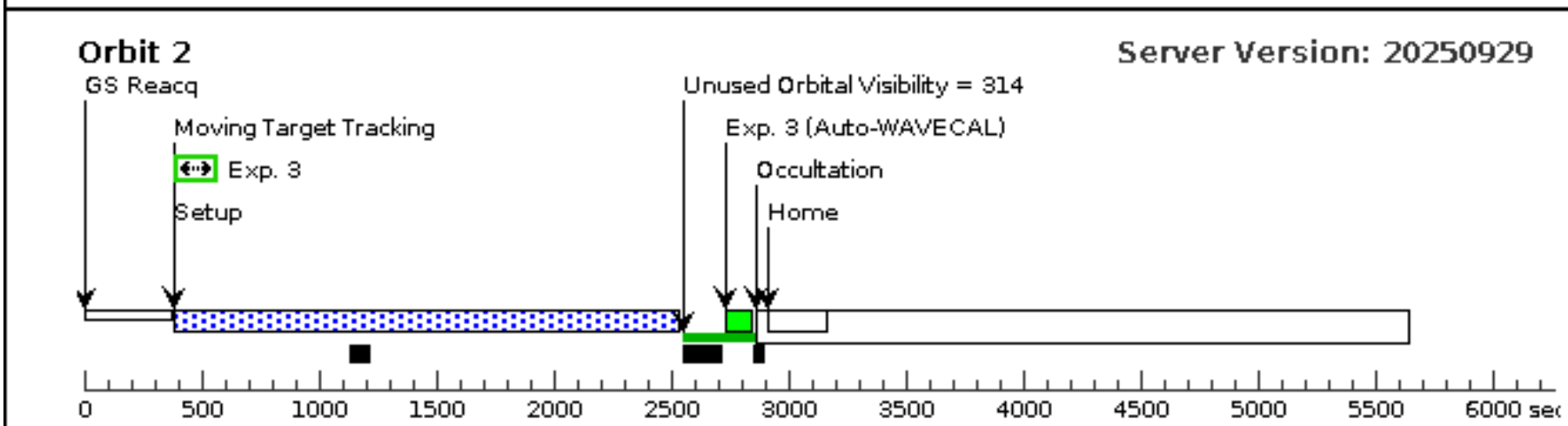
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Acquisition	(3) IO-NCLOUD-ANTIJUPITER	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=25; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER			0.1 Secs (0.1 Secs)	
								[==>]	*[1]*
2	STIS 52x2 stare	(3) IO-NCLOUD-ANTIJUPITER	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG null,-5.0	Sequence 2-2 Non-Int in Io Neutral Cloud Anti-Jupiter (3A)	1416 Secs (1416 Secs)	
								[==>]	*[1]*
3	STIS 52x2 stare	(3) IO-NCLOUD-ANTIJUPITER	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG null,-5.0	Sequence 3-3 Non-Int in Io Neutral Cloud Anti-Jupiter (3A)	2136 Secs (2136 Secs)	
								[==>]	*[2]*

Comments: At the time of PJ57 (2023-12-31), Io's diameter is 1.125 arcesc. Thus the checkbox is set to 1.125/0.05 = 25 pixels here.

Orbit Structure





Visit

Proposal 17470, Io Neutral Cloud Trailing (04), completed Wed Dec 31 16:02:09 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; BETWEEN 2025.328:22:32:00 AND 2025.328:23:30:00

Diagnostics

(Io Neutral Cloud Trailing (04)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions at a given COS cenwave (or 2 positions for certain exception cases). See extended explanation in the diagnostic browser.

(Io Neutral Cloud Trailing (04)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(Io Neutral Cloud Trailing (04)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(Io Neutral Cloud Trailing (04)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(Io Neutral Cloud Trailing (04)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(Io Neutral Cloud Trailing (04)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(Io Neutral Cloud Trailing (04)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(Io Neutral Cloud Trailing (04)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(Io Neutral Cloud Trailing (04)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(Exposure 2 (Sequence 2-4 Non-Int in Io Neutral Cloud Trailing (04))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 3 (Sequence 2-4 Non-Int in Io Neutral Cloud Trailing (04))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 4 (Sequence 2-4 Non-Int in Io Neutral Cloud Trailing (04))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 5 (Sequence 5-7 Non-Int in Io Neutral Cloud Trailing (04))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 6 (Sequence 5-7 Non-Int in Io Neutral Cloud Trailing (04))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 7 (Sequence 5-7 Non-Int in Io Neutral Cloud Trailing (04))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Io Neutral Cloud Trailing (04)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(4)	IO-NCLOUD-TRAILING	STD=JUPITER	STD=IO		NOT OCC OF IO-NCLOUD-TRAILING BY JUPITER FROM EARTH, SEP OF IO-NCLOUD-TRAILING EUROPA FROM EARTH GT 10", SEP OF IO-NCLOUD-TRAILING GANYMEDE FROM EARTH GT 10", SEP OF IO-NCLOUD-TRAILING CALLISTO FROM EARTH GT 10", OLG OF IO-NCLOUD-TRAILING BETWEEN 225 315	EARTH

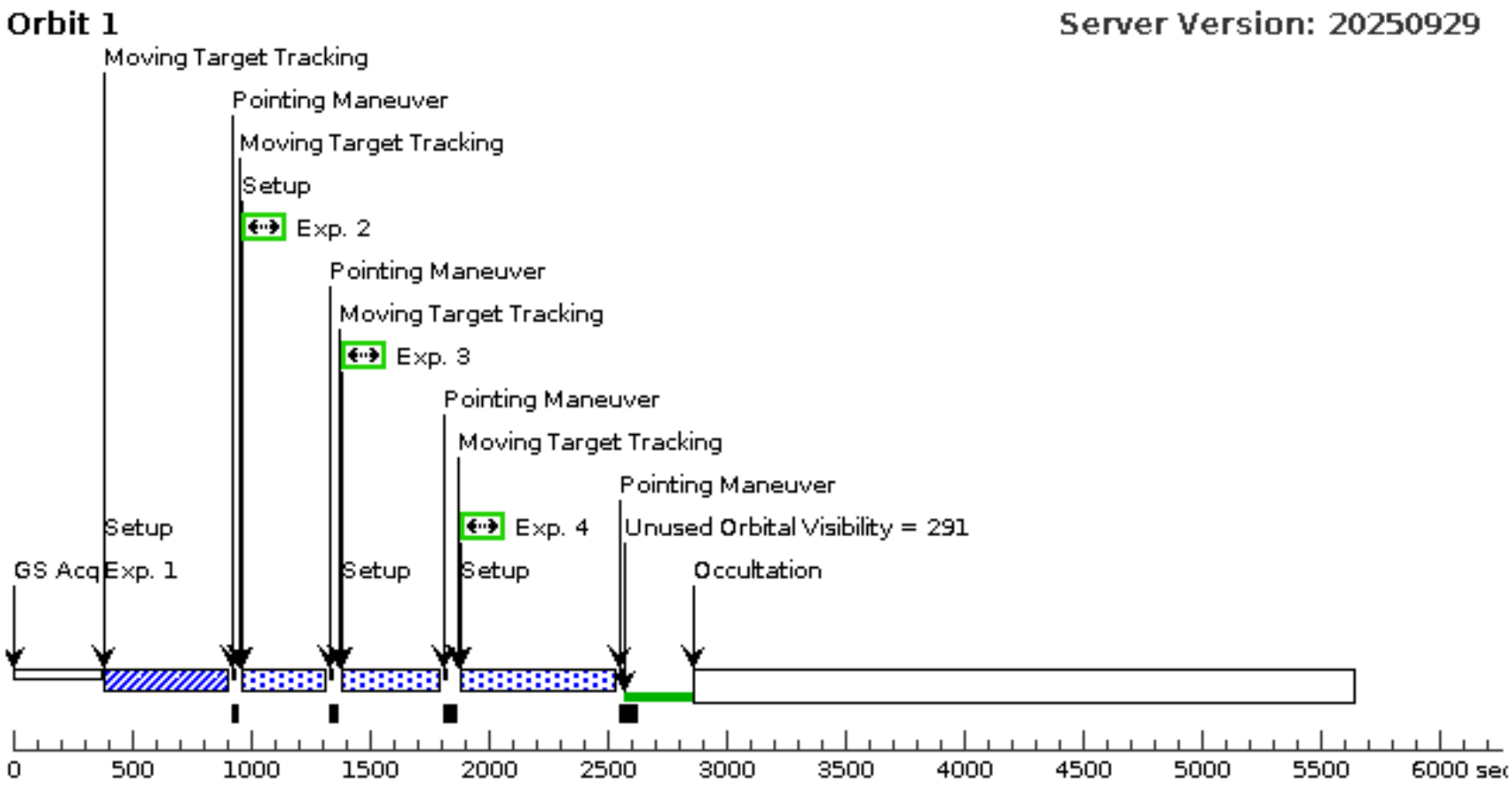
Comments: Description=Io Neutral Cloud STIS Step-scan & COS-Scan viewing Io's trailing hemisphere
Extended=YES

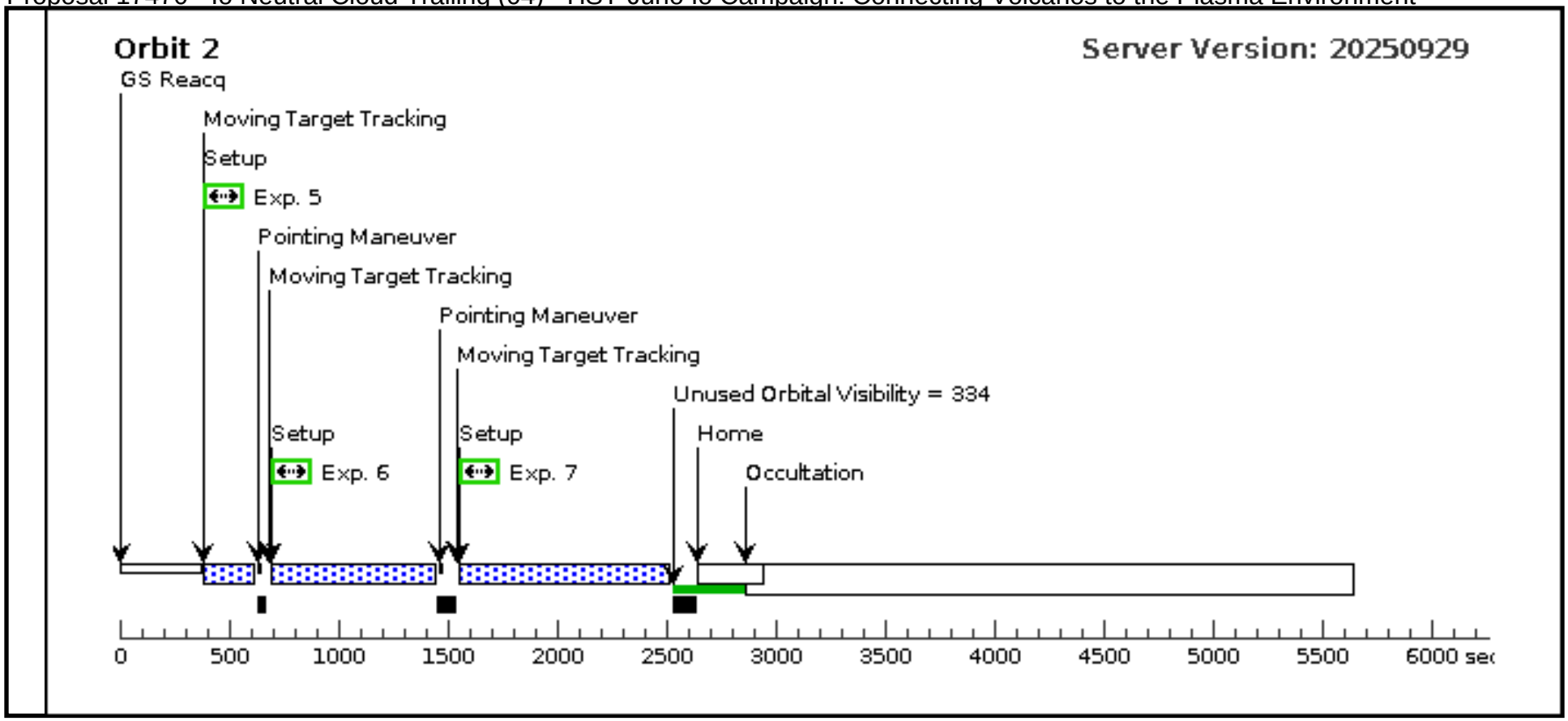
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.sa.1010061)	(4) IO-NCLOUD-TRAILING	COS/NUV, ACQ/SEARCH, PSA	G230L 3000 A	SCAN-SIZE=3; CENTER=FLUX-WT-FLR			1 Secs (1 Secs) *[==>]*	*[1]*
	Comments: This acquisition mode/setup was used successfully used in program 15147								
2	(COS.sp.1366889)	(4) IO-NCLOUD-TRAILING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,0	Sequence 2-4 Non-In t in Io Neutral Cloud Trailing (04)	60 Secs (180 Secs) *[==>180.0 Secs]*	*[1]*
	Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up. *Notes from ProjID=11539:* *ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.* *Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.* *The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments se ttings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.* *ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.*								
3	(COS.sp.1366889)	(4) IO-NCLOUD-TRAILING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,5	Sequence 2-4 Non-In t in Io Neutral Cloud Trailing (04)	68 Secs (359 Secs) *[==>359 Secs]*	*[1]*
	Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up. *Notes from ProjID=11539:* *ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.* *Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.* *The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments se ttings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.* *ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.*								
4	(COS.sp.1366889)	(4) IO-NCLOUD-TRAILING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,15	Sequence 2-4 Non-In t in Io Neutral Cloud Trailing (04)	77 Secs (600 Secs) *[==>600 Secs]*	*[1]*
	Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up. *Notes from ProjID=11539:* *ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.* *Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.* *The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments se ttings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.* *ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.*								
5	(COS.sp.1366889)	(4) IO-NCLOUD-TRAILING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,0	Sequence 5-7 Non-In t in Io Neutral Cloud Trailing (04)	90 Secs (180 Secs) *[==>180 Secs]*	*[2]*
6	(COS.sp.1366889)	(4) IO-NCLOUD-TRAILING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 10,0	Sequence 5-7 Non-In t in Io Neutral Cloud Trailing (04)	102 Secs (700 Secs) *[==>700 Secs]*	*[2]*

	7	(COS.sp.1366889)	(4) IO-NCLOUD-TRAILING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 20,0	Sequence 5-7 Non-Int in Io Neutral Cloud Trailing (04)	115 Secs (911 Secs) *[==>911 Secs]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20250929
GS Reacq
Moving Target Tracking
Setup
Exp. 5
Pointing Maneuver
Moving Target Tracking
Pointing Maneuver
Moving Target Tracking
Unused Orbital Visibility = 334
Setup
Setup
Home
Exp. 6
Exp. 7
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17470, Io Neutral Cloud Trailing (4A), completed Wed Dec 31 16:02:09 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%; BETWEEN 2025.329:02:08:00 AND 2025.329:03:08:00

Diagnostics

(STIS 52x2 stare (4A.002)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(STIS 52x2 stare (4A.003)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(Io Neutral Cloud Trailing (4A)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(4)	IO-NCLOUD-TRAILING	STD=JUPITER	STD=IO		NOT OCC OF IO-NCLOUD-TRAILING BY JUPITER FROM EARTH, SEP OF IO-NCLOUD-TRAILING EUROPA FROM EARTH GT 10", SEP OF IO-NCLOUD-TRAILING GANYMEDE FROM EARTH GT 10", SEP OF IO-NCLOUD-TRAILING CALLISTO FROM EARTH GT 10", OLG OF IO-NCLOUD-TRAILING BETWEEN 225 315	EARTH

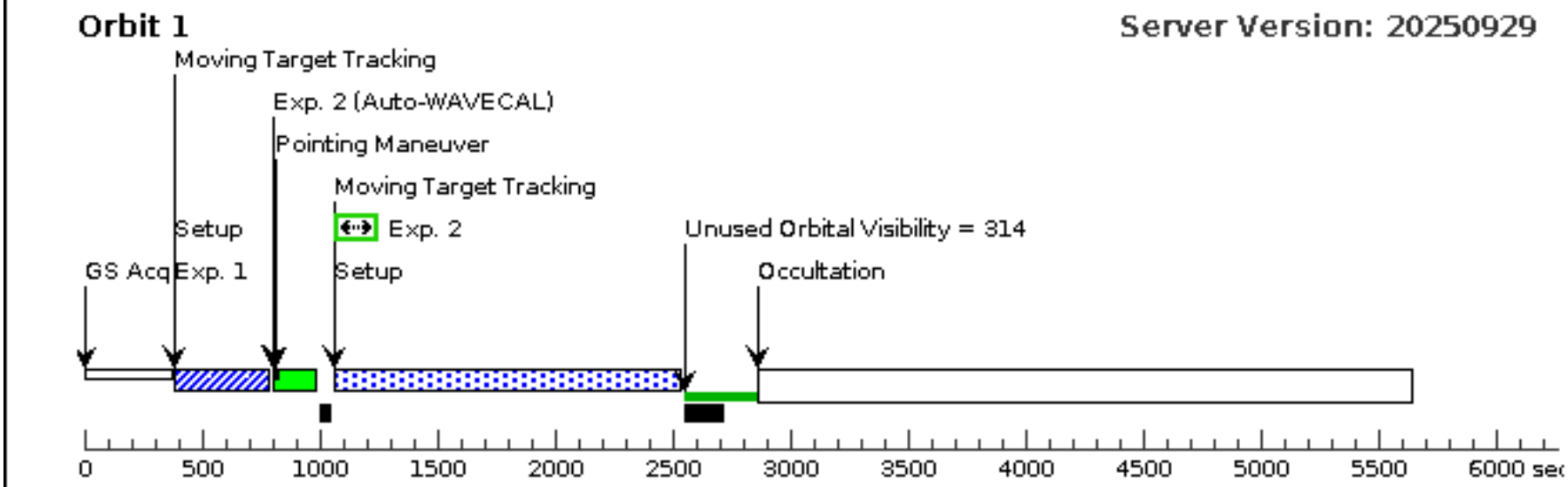
Comments: Description=Io Neutral Cloud STIS Step-scan & COS-Scan viewing Io's trailing hemisphere Extended=YES

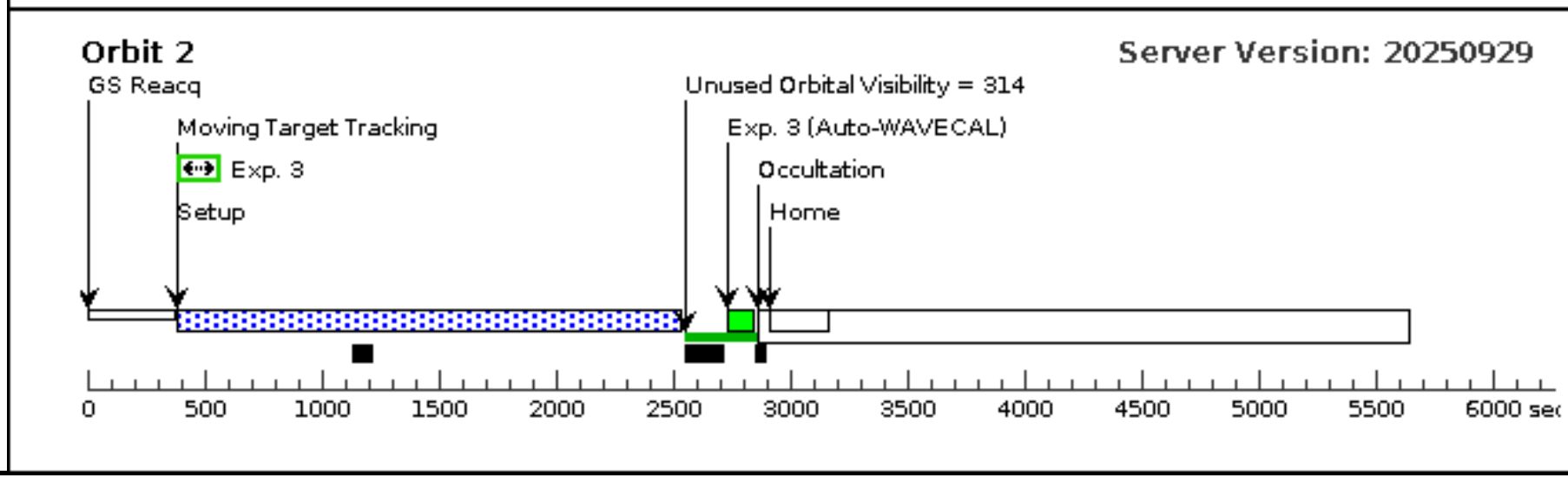
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Acquisition	(4) IO-NCLOUD-TRAILING	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=25; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER			0.1 Secs (0.1 Secs)	
								[==>]	***[1]***
2	STIS 52x2 stare	(4) IO-NCLOUD-TRAILING	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG null,-5.0	Sequence 2-2 Non-Int in Io Neutral Cloud Trailing (4A)	1416 Secs (1416 Secs)	
								[==>]	***[1]***
3	STIS 52x2 stare	(4) IO-NCLOUD-TRAILING	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG null,-5.0	Sequence 3-3 Non-Int in Io Neutral Cloud Trailing (4A)	2136 Secs (2136 Secs)	
								[==>]	***[2]***

Comments: At 25-Nov-2025 (25.329) from 02:38 to 05:00, Io's diameter is 1.11 arcesc. Thus the checkbox is set to (1.11/0.05 = 22.1) 25 pixels here.

Orbit Structure





Visit

Proposal 17470, Io Neutral Cloud Leading 2 (05), completed Wed Dec 31 16:02:10 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; BETWEEN 2025.329:22:04:00 AND 2025.329:23:04:00

Diagnostics

(Io Neutral Cloud Leading 2 (05)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions at a given COS cenwave (or 2 positions for certain exception cases). See extended explanation in the diagnostic browser.

(Io Neutral Cloud Leading 2 (05)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(Io Neutral Cloud Leading 2 (05)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(Io Neutral Cloud Leading 2 (05)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(Io Neutral Cloud Leading 2 (05)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(Io Neutral Cloud Leading 2 (05)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(Io Neutral Cloud Leading 2 (05)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(Io Neutral Cloud Leading 2 (05)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(Io Neutral Cloud Leading 2 (05)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(Exposure 2 (Sequence 2-4 Non-Int in Io Neutral Cloud Leading 2 (05))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 3 (Sequence 2-4 Non-Int in Io Neutral Cloud Leading 2 (05))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 4 (Sequence 2-4 Non-Int in Io Neutral Cloud Leading 2 (05))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 5 (Sequence 5-7 Non-Int in Io Neutral Cloud Leading 2 (05))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 6 (Sequence 5-7 Non-Int in Io Neutral Cloud Leading 2 (05))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 7 (Sequence 5-7 Non-Int in Io Neutral Cloud Leading 2 (05))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Io Neutral Cloud Leading 2 (05)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(102)	IO-NCLOUD-LEADING2	STD=JUPITER	STD=IO		NOT OCC OF IO-NCLOUD-LEADING2 BY JUPITER FROM EARTH, SEP OF IO-NCLOUD-LEADING2 EUROPA FROM EARTH GT 10", SEP OF IO-NCLOUD-LEADING2 GANYMEDE FROM EARTH GT 10", SEP OF IO-NCLOUD-LEADING2 CALLISTO FROM EARTH GT 10", OLG OF IO-NCLOUD-LEADING BETWEEN 45 135	EARTH

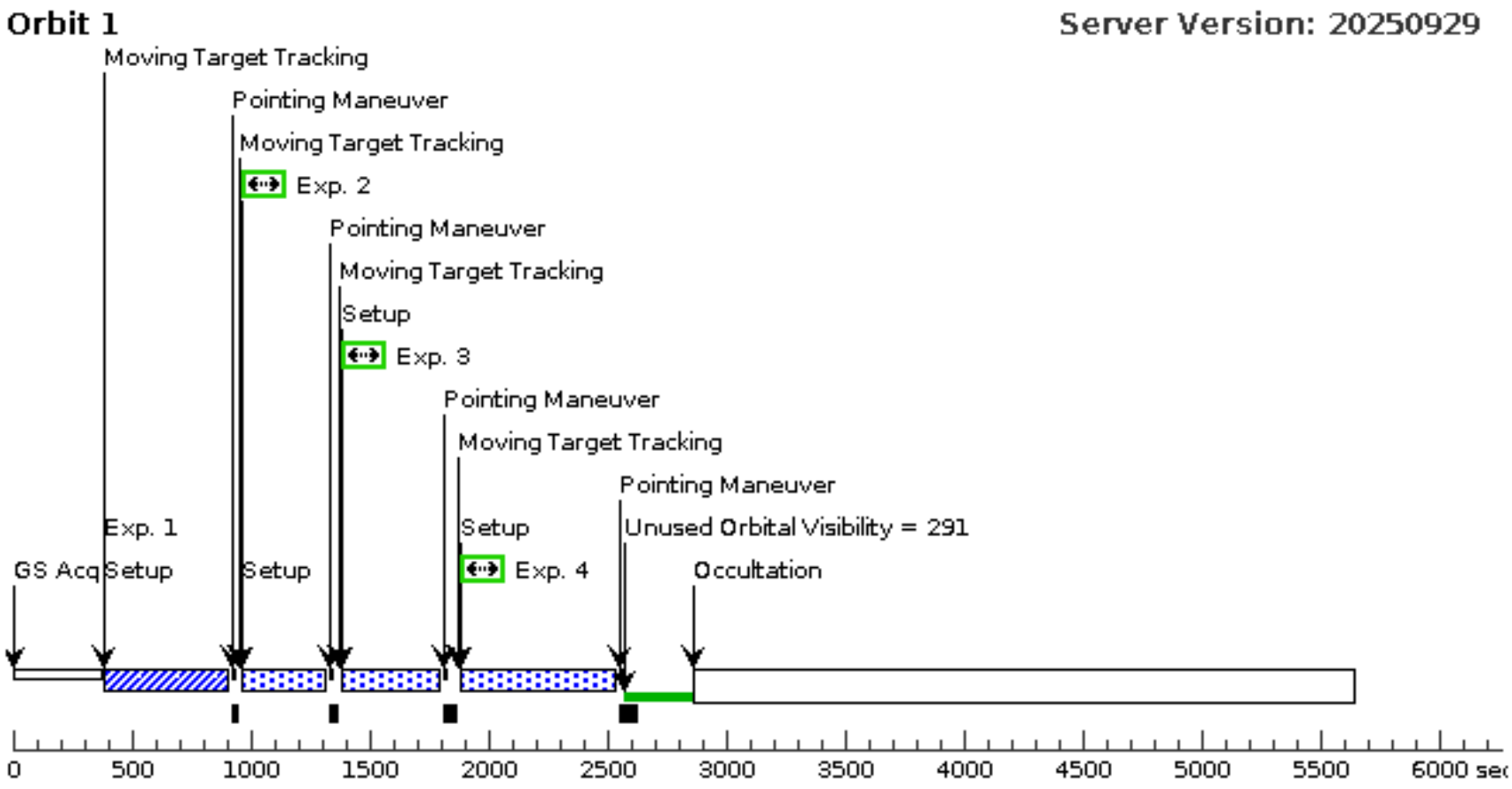
Comments: Description=Io Neutral Cloud STIS Step-scan & COS-Scan viewing Io's leading hemisphere
Extended=YES

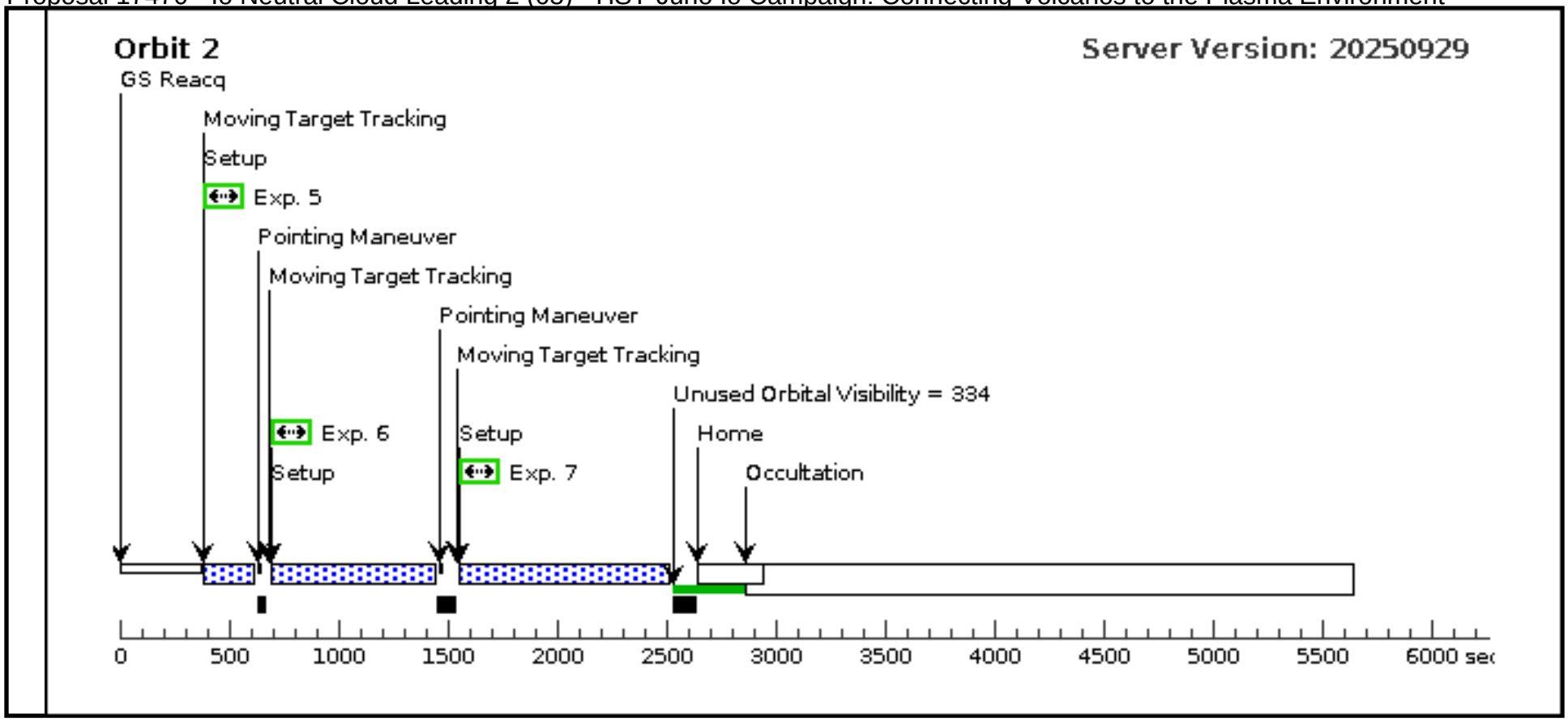
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.sa.1010061)	(102) IO-NCLOUD-LEADING2	COS/NUV, ACQ/SEARCH, PSA	G230L 3000 A	SCAN-SIZE=3; CENTER=FLUX-WT-FLR			1 Secs (1 Secs) *[==>]*	***[1]***
Comments: This acquisition mode/setup was used successfully used in program 15147									
2	(COS.sp.1366889)	(102) IO-NCLOUD-LEADING2	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,0	Sequence 2-4 Non-In t in Io Neutral Cloud Leading 2 (05)	180 Secs (180 Secs) *[==>]*	***[1]***
Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up. *Notes from ProjID=11539:* *ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.* *Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.* *The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments se ttings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.* *ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.*									
3	(COS.sp.1366889)	(102) IO-NCLOUD-LEADING2	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,5	Sequence 2-4 Non-In t in Io Neutral Cloud Leading 2 (05)	359 Secs (359 Secs) *[==>]*	***[1]***
Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up. *Notes from ProjID=11539:* *ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.* *Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.* *The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments se ttings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.* *ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.*									
4	(COS.sp.1366889)	(102) IO-NCLOUD-LEADING2	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,15	Sequence 2-4 Non-In t in Io Neutral Cloud Leading 2 (05)	600 Secs (600 Secs) *[==>]*	***[1]***
Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up. *Notes from ProjID=11539:* *ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.* *Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.* *The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments se ttings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.* *ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.*									
5	(COS.sp.1366889)	(102) IO-NCLOUD-LEADING2	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,0	Sequence 5-7 Non-In t in Io Neutral Cloud Leading 2 (05)	180 Secs (180 Secs) *[==>]*	***[2]***
6	(COS.sp.1366889)	(102) IO-NCLOUD-LEADING2	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 10,0	Sequence 5-7 Non-In t in Io Neutral Cloud Leading 2 (05)	700 Secs (700 Secs) *[==>]*	***[2]***

	7	(COS.sp.1366889)	(102) IO-NCLOUD-LEADING2	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 20,0	Sequence 5-7 Non-Int in Io Neutral Cloud Leading 2 (05)	911 Secs (911 Secs) *[==>]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20250929
GS Reacq
Moving Target Tracking
Setup
Exp. 5
Pointing Maneuver
Moving Target Tracking
Pointing Maneuver
Moving Target Tracking
Unused Orbital Visibility = 334
Exp. 6
Setup
Setup
Exp. 7
Home
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17470, Io Neutral Cloud Leading 2 (5A), completed Wed Dec 31 16:02:10 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%; BETWEEN 2025.330:01:13:00 AND 2025.330:02:13:00

Diagnostics

(STIS 52x2 stare (5A.002)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(STIS 52x2 stare (5A.003)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(Io Neutral Cloud Leading 2 (5A)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(102)	IO-NCLOUD-LEADING2	STD=JUPITER	STD=IO		NOT OCC OF IO-NCLOUD-LEADING2 BY JUPITER FROM EARTH, SEP OF IO-NCLOUD-LEADING2 EUROPA FROM EARTH GT 10", SEP OF IO-NCLOUD-LEADING2 GANYMEDE FROM EARTH GT 10", SEP OF IO-NCLOUD-LEADING2 CALLISTO FROM EARTH GT 10", OLG OF IO-NCLOUD-LEADING BETWEEN 45 135	EARTH

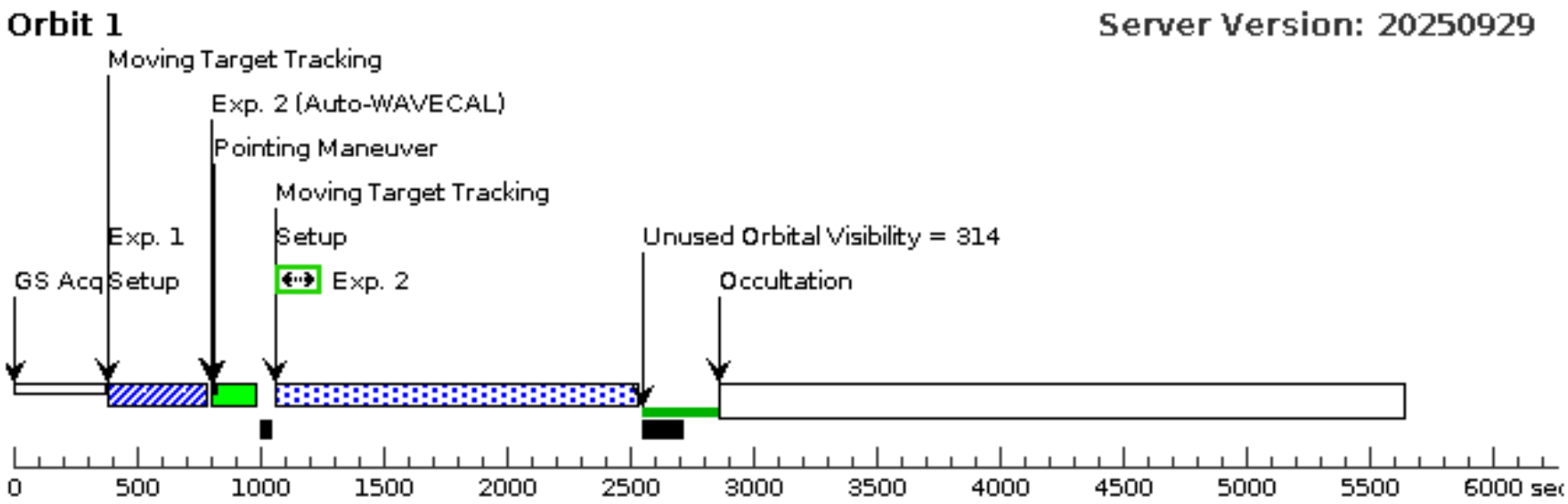
Comments: Description=Io Neutral Cloud STIS Step-scan & COS-Scan viewing Io's leading hemisphere Extended=YES

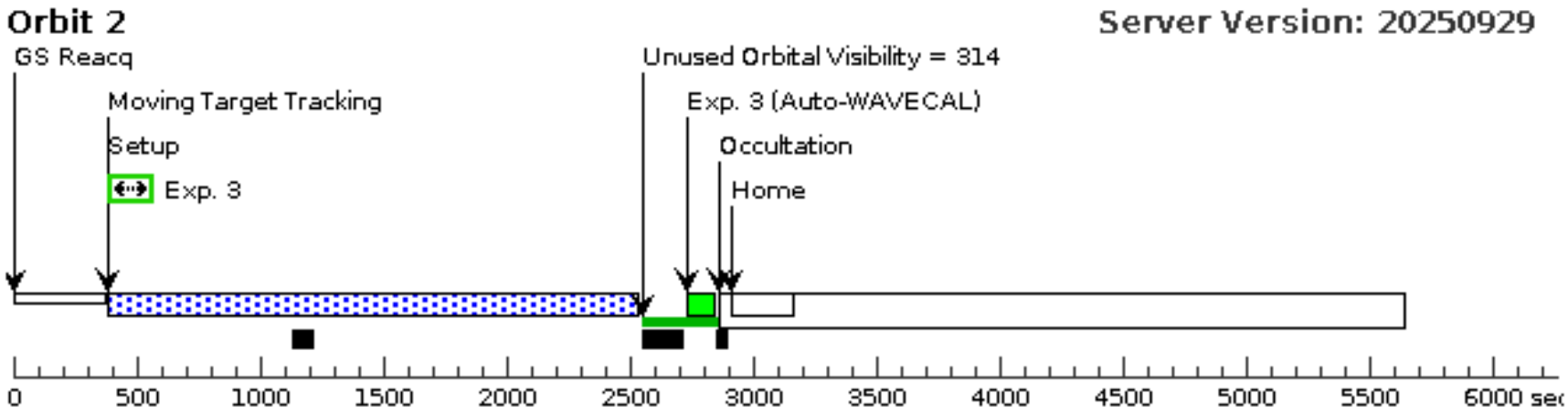
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Acquisition	(102) IO-NCLOUD-LEADING2	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=25; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER			0.1 Secs (0.1 Secs)	
								[==>]	***[1]***
2	STIS 52x2 stare	(102) IO-NCLOUD-LEADING2	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG null,-5.0	Sequence 2-2 Non-Int in Io Neutral Cloud Leading 2 (5A)	1416 Secs (1416 Secs)	
								[==>]	***[1]***
3	STIS 52x2 stare	(102) IO-NCLOUD-LEADING2	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG null,-5.0	Sequence 3-3 Non-Int in Io Neutral Cloud Leading 2 (5A)	2136 Secs (2136 Secs)	
								[==>]	***[2]***

Comments: Nov. 17 Io's diameter is 21.7 pixels. Dec. 24, 2025 the size is 23.6 pixels. Thus the checkbox is left at 25 pixels here.

Orbit Structure





Visit

Proposal 17470, Io Neutral Cloud Trailing 2 (06), completed Wed Dec 31 16:02:10 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; BETWEEN 2025.336:02:12:00 AND 2025.336:03:12:00

Diagnostics

(Io Neutral Cloud Trailing 2 (06)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions at a given COS cenwave (or 2 positions for certain exception cases). See extended explanation in the diagnostic browser.

(Io Neutral Cloud Trailing 2 (06)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(Io Neutral Cloud Trailing 2 (06)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(Io Neutral Cloud Trailing 2 (06)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(Io Neutral Cloud Trailing 2 (06)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(Io Neutral Cloud Trailing 2 (06)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(Io Neutral Cloud Trailing 2 (06)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(Io Neutral Cloud Trailing 2 (06)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(Io Neutral Cloud Trailing 2 (06)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(Exposure 2 (Sequence 2-4 Non-Int in Io Neutral Cloud Trailing 2 (06))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 3 (Sequence 2-4 Non-Int in Io Neutral Cloud Trailing 2 (06))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 4 (Sequence 2-4 Non-Int in Io Neutral Cloud Trailing 2 (06))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 5 (Sequence 5-7 Non-Int in Io Neutral Cloud Trailing 2 (06))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 6 (Sequence 5-7 Non-Int in Io Neutral Cloud Trailing 2 (06))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 7 (Sequence 5-7 Non-Int in Io Neutral Cloud Trailing 2 (06))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Io Neutral Cloud Trailing 2 (06)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(4)	IO-NCLOUD-TRAILING	STD=JUPITER	STD=IO		NOT OCC OF IO-NCLOUD-TRAILING BY JUPITER FROM EARTH, SEP OF IO-NCLOUD-TRAILING EUROPA FROM EARTH GT 10", SEP OF IO-NCLOUD-TRAILING GANYMEDE FROM EARTH GT 10", SEP OF IO-NCLOUD-TRAILING CALLISTO FROM EARTH GT 10", OLG OF IO-NCLOUD-TRAILING BETWEEN 225 315	EARTH

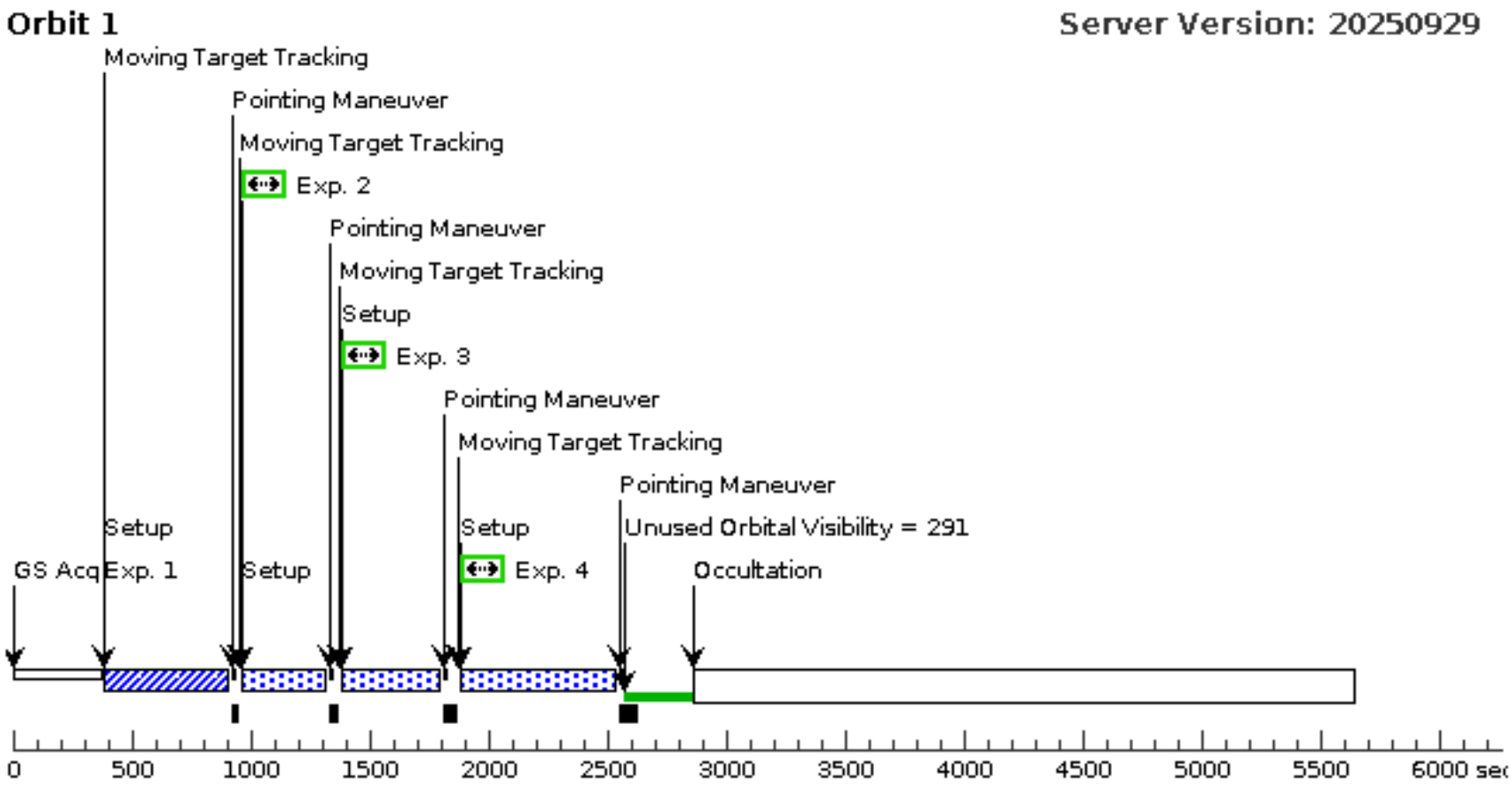
Comments: Description=Io Neutral Cloud STIS Step-scan & COS-Scan viewing Io's trailing hemisphere
Extended=YES

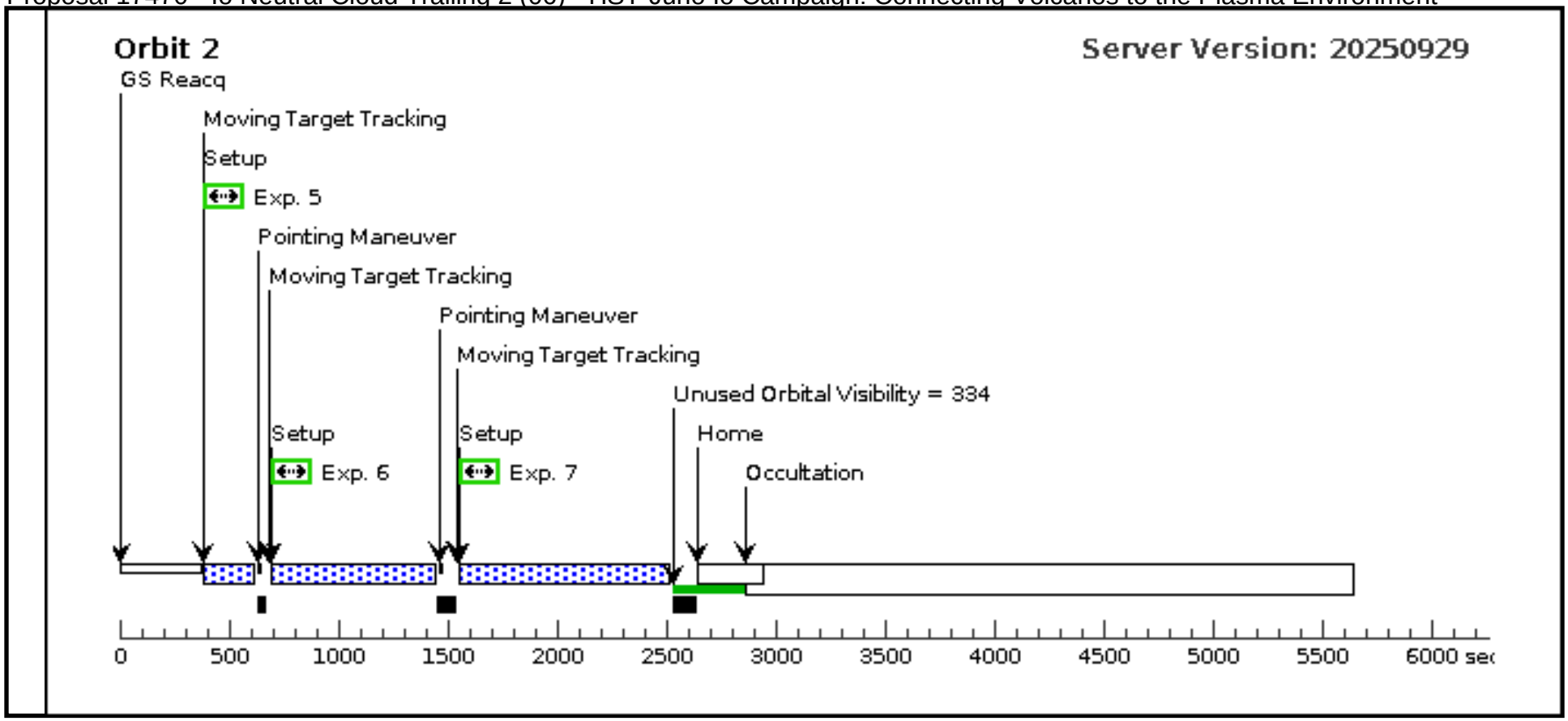
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.sa.1010061)	(4) IO-NCLOUD-TRAILING	COS/NUV, ACQ/SEARCH, PSA	G230L 3000 A	SCAN-SIZE=3; CENTER=FLUX-WT-FLR			1 Secs (1 Secs) *[==>]*	*[1]*
	Comments: This acquisition mode/setup was used successfully used in program 15147								
2	(COS.sp.1366889)	(4) IO-NCLOUD-TRAILING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,0	Sequence 2-4 Non-In t in Io Neutral Cloud Trailing 2 (06)	60 Secs (180 Secs) *[==>180.0 Secs]*	*[1]*
	Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up. *Notes from ProjID=11539:* *ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.* *Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.* *The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments se ttings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.* *ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.*								
3	(COS.sp.1366889)	(4) IO-NCLOUD-TRAILING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,5	Sequence 2-4 Non-In t in Io Neutral Cloud Trailing 2 (06)	68 Secs (359 Secs) *[==>359.0 Secs]*	*[1]*
	Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up. *Notes from ProjID=11539:* *ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.* *Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.* *The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments se ttings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.* *ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.*								
4	(COS.sp.1366889)	(4) IO-NCLOUD-TRAILING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,15	Sequence 2-4 Non-In t in Io Neutral Cloud Trailing 2 (06)	77 Secs (600 Secs) *[==>600.0 Secs]*	*[1]*
	Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up. *Notes from ProjID=11539:* *ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.* *Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.* *The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments se ttings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.* *ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.*								
5	(COS.sp.1366889)	(4) IO-NCLOUD-TRAILING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,0	Sequence 5-7 Non-In t in Io Neutral Cloud Trailing 2 (06)	180 Secs (180 Secs) *[==>]*	*[2]*
6	(COS.sp.1366889)	(4) IO-NCLOUD-TRAILING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 10,0	Sequence 5-7 Non-In t in Io Neutral Cloud Trailing 2 (06)	700 Secs (700 Secs) *[==>]*	*[2]*

	7	(COS.sp.1366889)	(4) IO-NCLOUD-TRAILING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 20,0	Sequence 5-7 Non-Int in Io Neutral Cloud Trailing 2 (06)	911 Secs (911 Secs) *[==>]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20250929
GS Reacq
Moving Target Tracking
Setup
Exp. 5
Pointing Maneuver
Moving Target Tracking
Pointing Maneuver
Moving Target Tracking
Unused Orbital Visibility = 334
Setup
Setup
Home
Exp. 6
Exp. 7
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17470, Io Neutral Cloud Trailing 2 (6A), completed Wed Dec 31 16:02:10 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%; BETWEEN 2025.336:05:20:00 AND 2025.336:06:20:00

Diagnostics

(STIS 52x2 stare (6A.002)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(STIS 52x2 stare (6A.003)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(Io Neutral Cloud Trailing 2 (6A)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(4)	IO-NCLOUD-TRAILING	STD=JUPITER	STD=IO		NOT OCC OF IO-NCLOUD-TRAILING BY JUPITER FROM EARTH, SEP OF IO-NCLOUD-TRAILING EUROPA FROM EARTH GT 10", SEP OF IO-NCLOUD-TRAILING GANYMEDE FROM EARTH GT 10", SEP OF IO-NCLOUD-TRAILING CALLISTO FROM EARTH GT 10", OLG OF IO-NCLOUD-TRAILING BETWEEN 225 315	EARTH

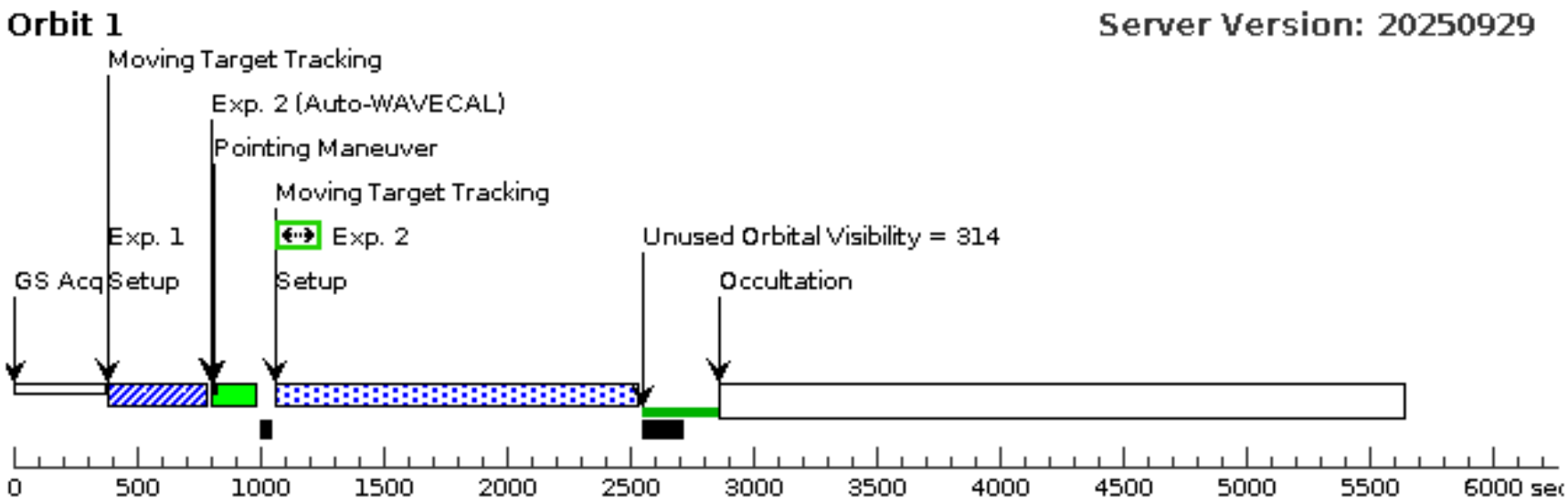
Comments: Description=Io Neutral Cloud STIS Step-scan & COS-Scan viewing Io's trailing hemisphere
Extended=YES

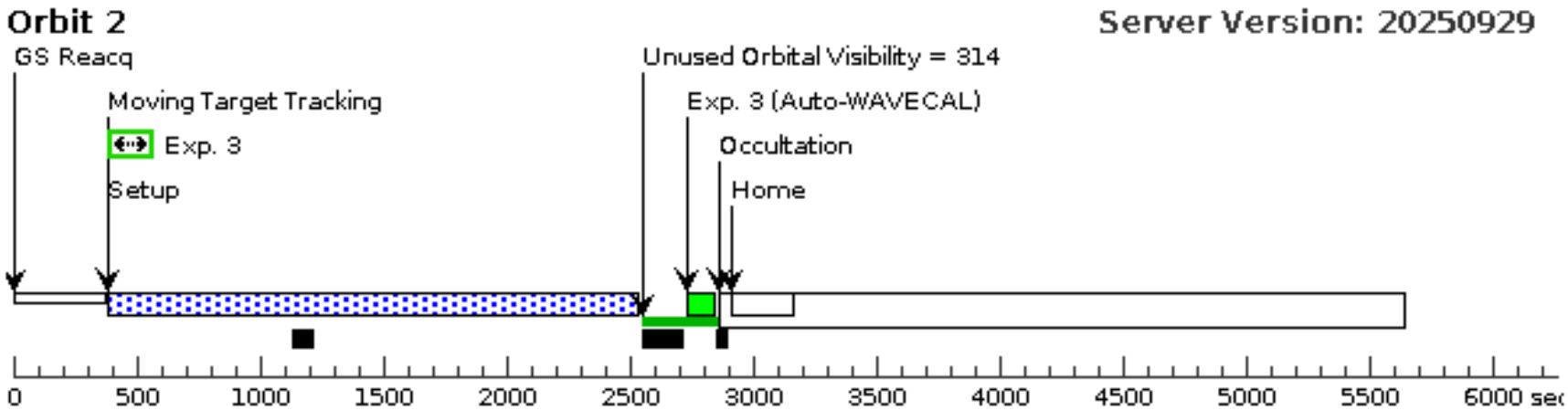
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Acquisition	(4) IO-NCLOUD-TRAILING	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=25; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER			0.1 Secs (0.1 Secs) *[==>]*	***[1]***
2	STIS 52x2 stare	(4) IO-NCLOUD-TRAILING	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG null,-5.0	Sequence 2-2 Non-Int in Io Neutral Cloud Trailing 2 (6A)	1416 Secs (1416 Secs) *[==>]*	***[1]***
3	STIS 52x2 stare	(4) IO-NCLOUD-TRAILING	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG null,-5.0	Sequence 3-3 Non-Int in Io Neutral Cloud Trailing 2 (6A)	2136 Secs (2136 Secs) *[==>]*	***[2]***

Comments: Dec. 23, 2025 the size is 23.6 pixels. Thus the checkbox is left at 25 pixels here.
On 02-Dec-2025 (25.336) the size is 22.68 pixels, so we have a 2-pixel margin for good measure.

Orbit Structure





Visit

Proposal 17470, Io Plasma Leading (07), implementation Wed Dec 31 16:02:10 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%

Diagnostics

(Io Plasma Leading (07)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Io Plasma Leading (07)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(STIS 52x0.5 two slit-step pattern (07.002)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(STIS 52x0.5 two slit-step pattern (07.003)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(Io Plasma Leading (07)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(7)	Pattern Type=STIS-PERP-TO-SLIT Purpose=MOSAIC Number Of Points=3 Point Spacing=0.5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=0.0 Angle Between Sides= Center Pattern=true		(2), (3)

Solar System Targets

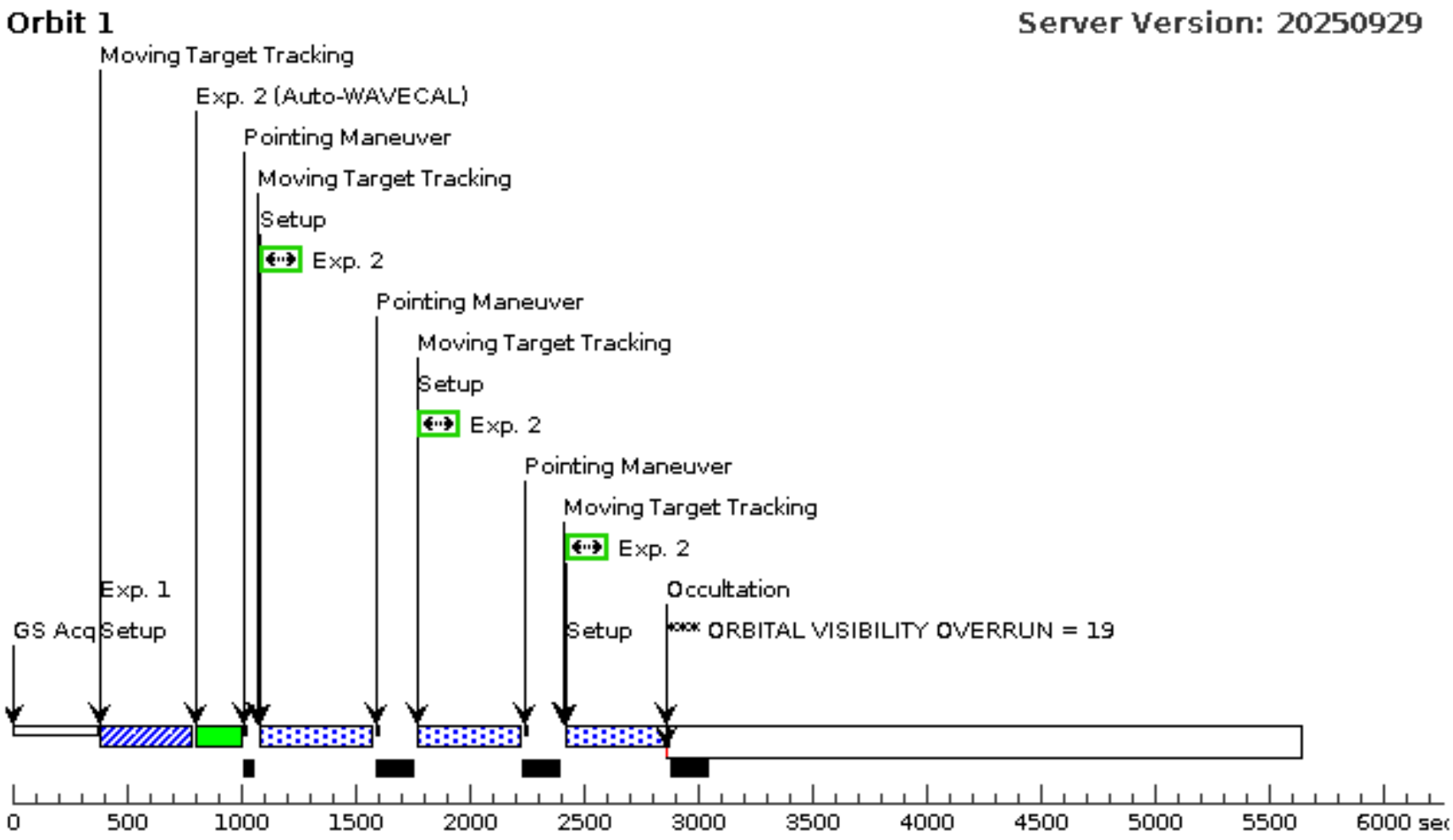
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(5)	IO-PLASMATORUS-LEADING	STD=JUPITER	STD=IO		NOT OCC OF IO-PLASMATORUS-LEADING BY JUPITER FROM EARTH, SEP OF IO-PLASMATORUS-LEADING EUROPA FROM EARTH GT 10", SEP OF IO-PLASMATORUS-LEADING GANYMEDE FROM EARTH GT 10", SEP OF IO-PLASMATORUS-LEADING CALLISTO FROM EARTH GT 10", OLG OF IO-PLASMATORUS-LEADING BETWEEN 45 135	EARTH

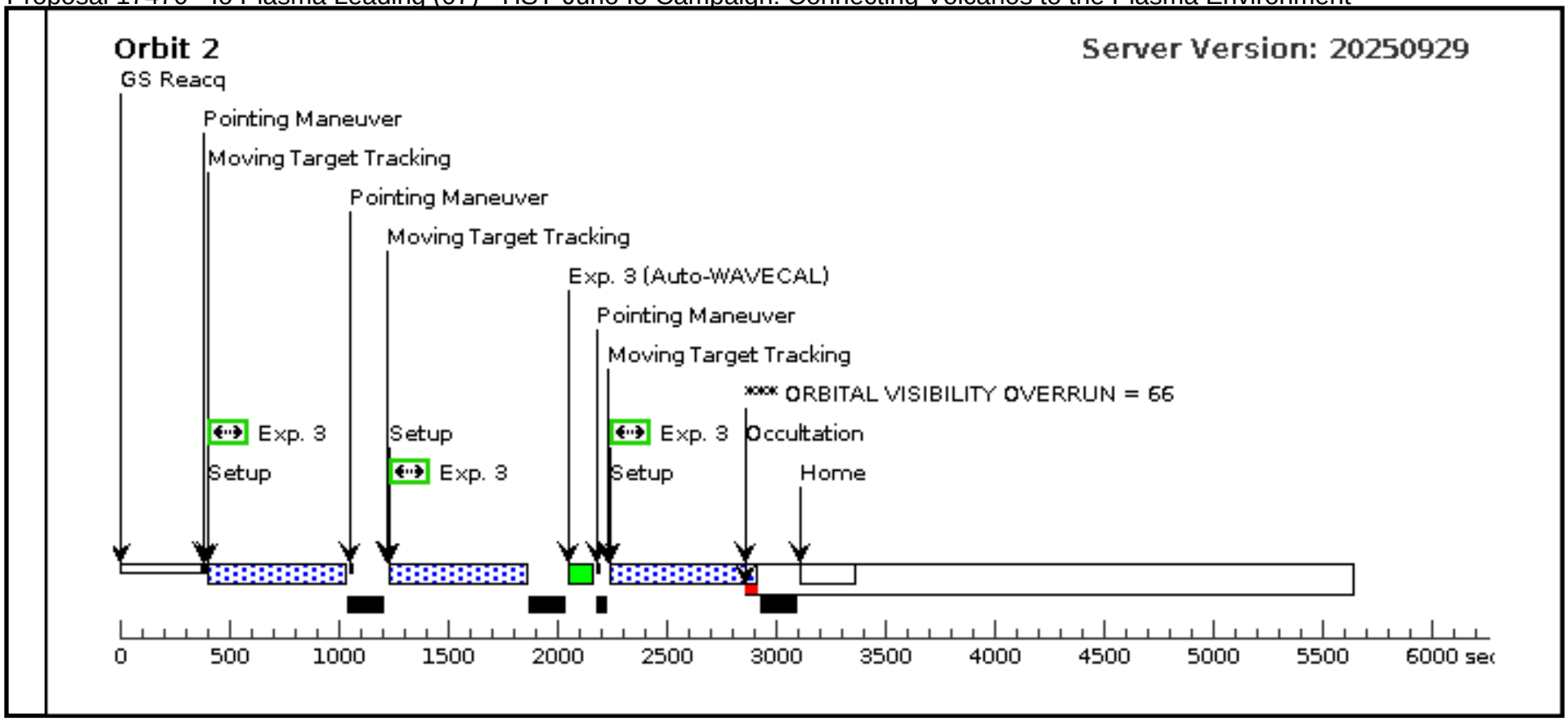
Comments: ..
Description=Io Plasma Torus Leading Hemisphere Scan
Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	IO1 ACQ	(5) IO-PLASMATORUS-LEADING	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=25; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER		Sequence 1-2 Non-Int in Io Plasma Leading (07)	0.1 Secs (0.1 Secs) *[==>]*	*[1]*
Comments: At the time of PJ57 (2023-12-31), Io's diameter is 1.125 arcesc. Thus the checkbox is set to 1.125/0.05 = 25 pixels here. To be modified as the timing is determined.									
2	STIS 52x0.5 two slit-step pattern	(5) IO-PLASMATORUS-LEADING	STIS/FUV-MAMA, TIME-TAG, 52X0.5	G140M 1272 A	BUFFER-TIME=750		Sequence 1-2 Non-Int in Io Plasma Leading (07) Pattern 7, Exps 2-2 in Sequence 1-2 Non-Int in Io Plasma Leading (07) (7)	430 Secs (1290 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	*[1]*
3	STIS 52x0.5 two slit-step pattern	(5) IO-PLASMATORUS-LEADING	STIS/FUV-MAMA, TIME-TAG, 52X0.5	G140M 1272 A	BUFFER-TIME=750		Sequence 3-3 Non-Int in Io Plasma Leading (07) Pattern 7, Exps 3-3 in Sequence 3-3 Non-Int in Io Plasma Leading (07) (7)	610 Secs (1830 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	*[2]*

Orbit Structure




Orbit 2
Server Version: 20250929
GS Reacq
Pointing Maneuver
Moving Target Tracking
Pointing Maneuver
Moving Target Tracking
Exp. 3 (Auto-WAVECAL)
Pointing Maneuver
Moving Target Tracking
*** ORBITAL VISIBILITY OVERRUN = 66
Exp. 3
Setup
Setup
Exp. 3
Exp. 3
Setup
Occultation
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17470, Io PlasmaTrailing (08), implementation Wed Dec 31 16:02:10 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%

Diagnostics

(Io PlasmaTrailing (08)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Io PlasmaTrailing (08)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(STIS 52x0.5 two slit-step pattern (08.002)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(STIS 52x0.5 two slit-step pattern (08.003)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(Io PlasmaTrailing (08)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(7)	Pattern Type=STIS-PERP-TO-SLIT Purpose=MOSAIC Number Of Points=3 Point Spacing=0.5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=0.0 Angle Between Sides= Center Pattern=true		(2), (3)

Solar System Targets

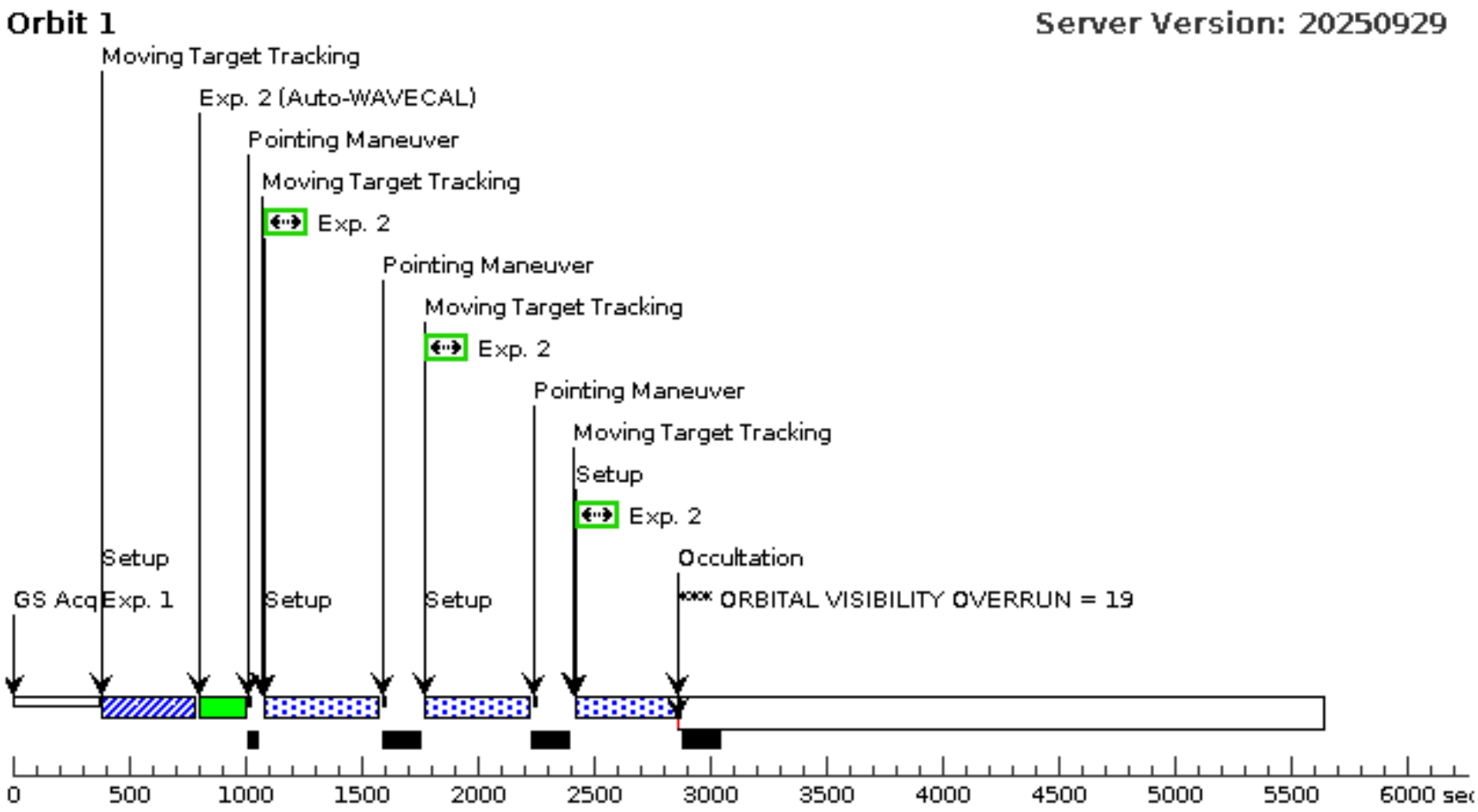
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(6)	IO-PLASMATORUS-TRAILING	STD=JUPITER	STD=IO		NOT OCC OF IO-PLASMATORUS-TRAILING BY JUPITER FROM EARTH, SEP OF IO-PLASMATORUS-TRAILING EUROPA FROM EARTH GT 10", SEP OF IO-PLASMATORUS-TRAILING GANYMEDE FROM EARTH GT 10", SEP OF IO-PLASMATORUS-TRAILING CALLISTO FROM EARTH GT 10", OLG OF IO-PLASMATORUS-TRAILING BETWEEN 225 315	EARTH

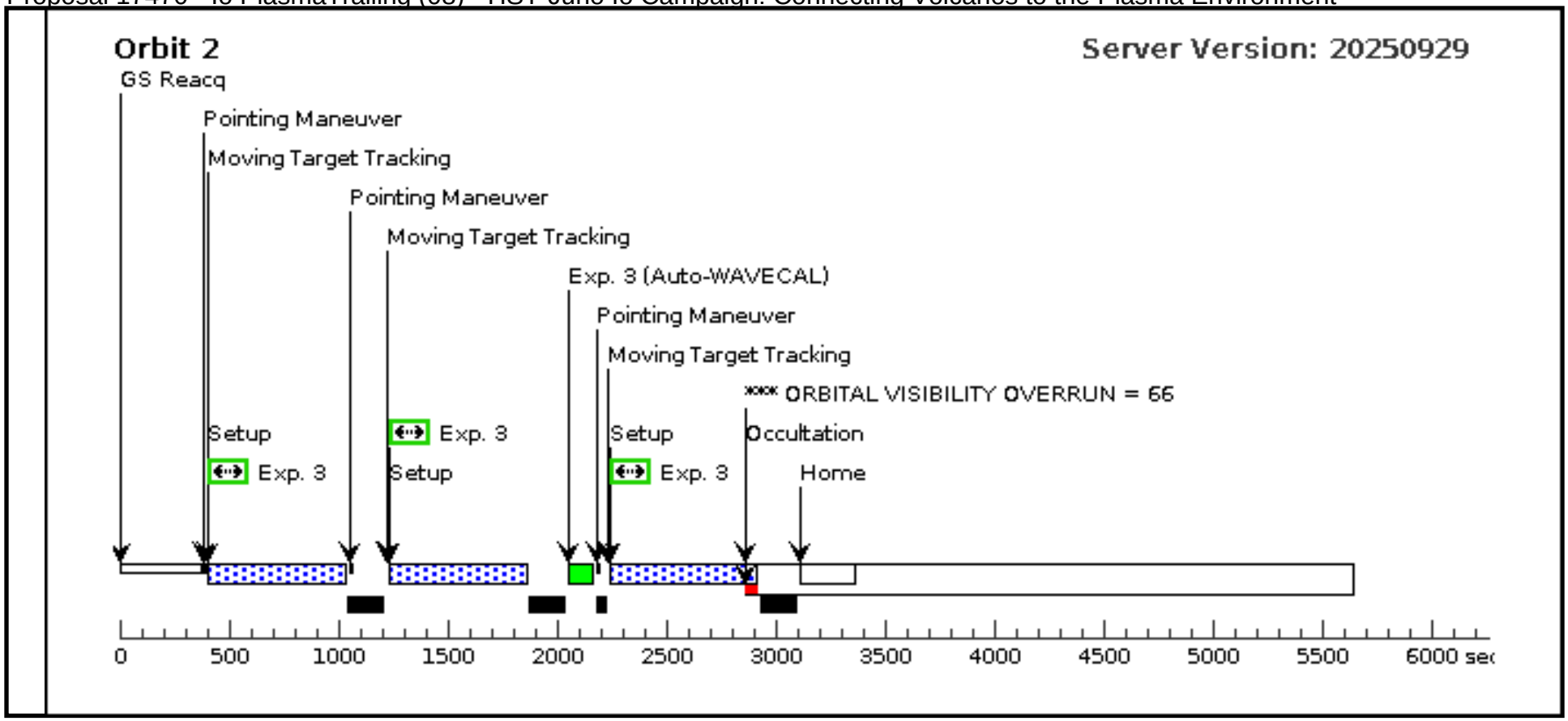
Comments: ..
Description=Io Plasma Torus Trailing Hemisphere Scan
Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	IO1 ACQ	(6) IO-PLASMATORUS-TRAILING	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=25; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER		Sequence 1-2 Non-Int in Io PlasmaTrailing (08)	0.1 Secs (0.1 Secs) *[==>]*	***[1]***
Comments: At the time of PJ57 (2023-12-31), Io's diameter is 1.125 arcesc. Thus the checkbox is set to 1.125/0.05 = 25 pixels here. To be modified as the timing is determined.									
2	STIS 52x0.5 two slit-step pattern	(6) IO-PLASMATORUS-TRAILING	STIS/FUV-MAMA, TIME-TAG, 52X0.5	G140M 1272 A	BUFFER-TIME=750		Sequence 1-2 Non-Int in Io PlasmaTrailing (08) Pattern 7, Exps 2-2 in Sequence 1-2 Non-Int in Io PlasmaTrailing (08) (7)	430 Secs (1290 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
3	STIS 52x0.5 two slit-step pattern	(6) IO-PLASMATORUS-TRAILING	STIS/FUV-MAMA, TIME-TAG, 52X0.5	G140M 1272 A	BUFFER-TIME=750		Sequence 3-3 Non-Int in Io PlasmaTrailing (08) Pattern 7, Exps 3-3 in Sequence 3-3 Non-Int in Io PlasmaTrailing (08) (7)	610 Secs (1830 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20250929
GS Reacq
Pointing Maneuver
Moving Target Tracking
Pointing Maneuver
Moving Target Tracking
Exp. 3 (Auto-WAVECAL)
Pointing Maneuver
Moving Target Tracking
*** ORBITAL VISIBILITY OVERRUN = 66
Setup
Exp. 3
Exp. 3
Setup
Setup
Exp. 3
Occultation
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17470, IO_NCLOUD_EAST_COS-1 (09), completed Wed Dec 31 16:02:10 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: COS/FUV

Special Requirements: SCHED 100%; BETWEEN 2025.334:10:00:00 AND 2025.334:11:30:00

Diagnostics

(IO_NCLOUD_EAST_COS-1 (09)) Warning (Form): A target acquisition should probably be performed before doing spectroscopy or coronography with STIS or COS.

(Exposure 1 (IO_NCLOUD_EAST_COS-1 (09))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 2 (IO_NCLOUD_EAST_COS-1 (09))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(IO_NCLOUD_EAST_COS-1 (09)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(7)	NCLOUD-EASTANSA	STD=JUPITER	STD=CALLISTO	TYPE=POS_ANGLE,RAD=35,ANG=260,REF=NORTH	NOT OCC OF NCLOUD-EASTANSA BY JUPITER FROM EARTH, SEP OF NCLOUD-EASTANSA IO FROM EARTH GT 10", SEP OF NCLOUD-EASTANSA EUROPA FROM EARTH GT 10", SEP OF NCLOUD-EASTANSA GANYMEDE FROM EARTH GT 10"	EARTH

Comments: Description=Io Neutral Cloud COS Stare with No Io at its orbital ansa point east of Jupiter (would be the leading/dawn-side)
Extended=YES

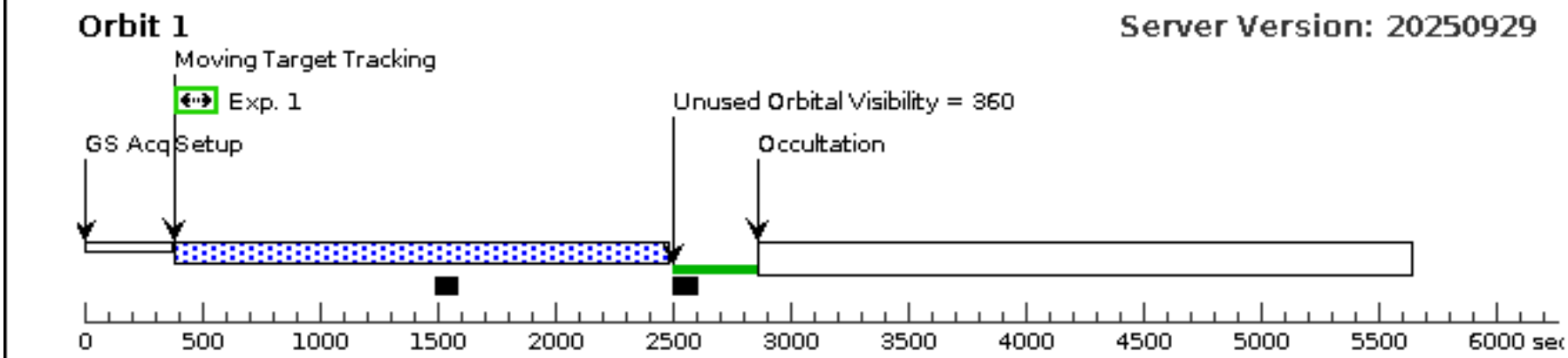
Exposures

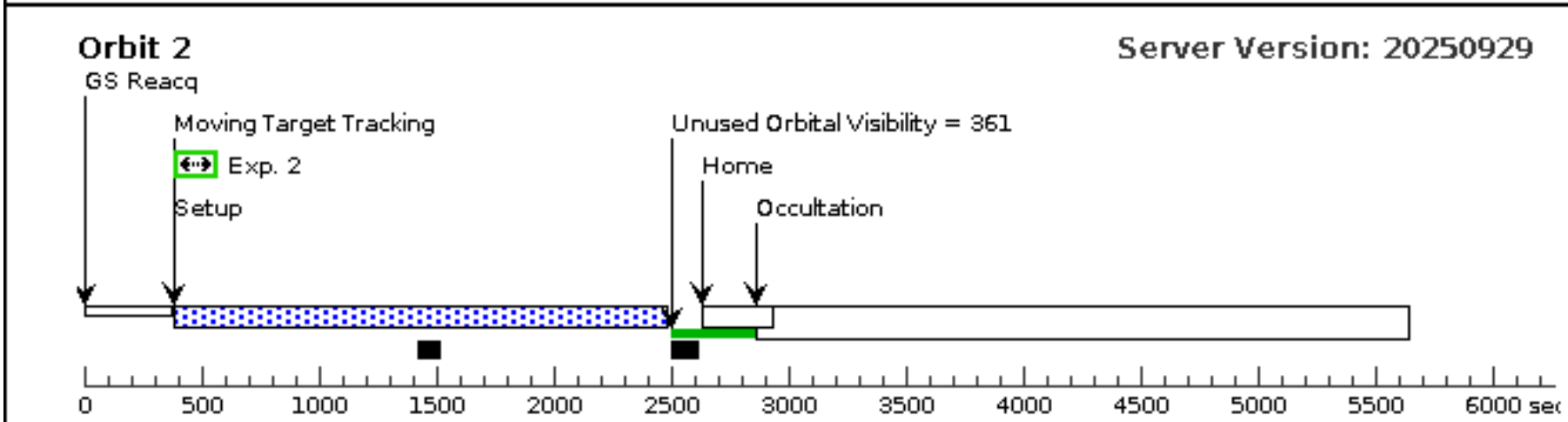
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.sp.1366889)	(7) NCLOUD-EASTANSA	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH			1980 Secs (1980 Secs) *[==>]*	***[1]***
2	(COS.sp.1366889)	(7) NCLOUD-EASTANSA	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=4; BUFFER-TIME=1000; SEGMENT=BOTH			2050 Secs (2050 Secs) *[==>]*	***[2]***

Comments: Io's orbital distance from Jupiter is 422,000 km. For example, offset from Callisto on Nov. 30, 2025 at 12:00.

With Io's 1.7 day orbit we have a good window to try the opposite side,

Orbit Structure





Visit

Proposal 17470, IO_NCLOUD_EAST_COS-2 (10), implementation Wed Dec 31 16:02:10 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: COS/FUV

Special Requirements: SCHED 100%; AFTER 02-AUG-2024:00:00:00

Diagnostics

(IO_NCLOUD_EAST_COS-2 (10)) Warning (Form): A target acquisition should probably be performed before doing spectroscopy or coronography with STIS or COS.

(Exposure 1 (IO_NCLOUD_EAST_COS-2 (10))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 2 (IO_NCLOUD_EAST_COS-2 (10))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(IO_NCLOUD_EAST_COS-2 (10)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

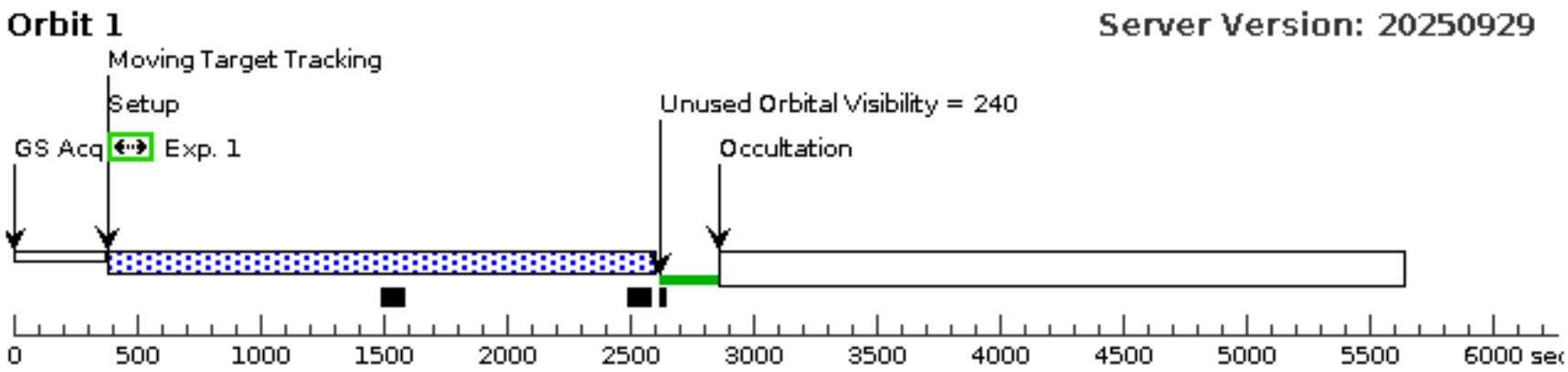
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(7)	NCLOUD-EASTANSA	STD=JUPITER	STD=CALLISTO	TYPE=POS_ANGLE,RAD=35,ANG=260,REF=NORTH	NOT OCC OF NCLOUD-EASTANSA BY JUPITER FROM EARTH, SEP OF NCLOUD-EASTANSA IO FROM EARTH GT 10", SEP OF NCLOUD-EASTANSA EUROPA FROM EARTH GT 10", SEP OF NCLOUD-EASTANSA GANYMEDE FROM EARTH GT 10"	EARTH

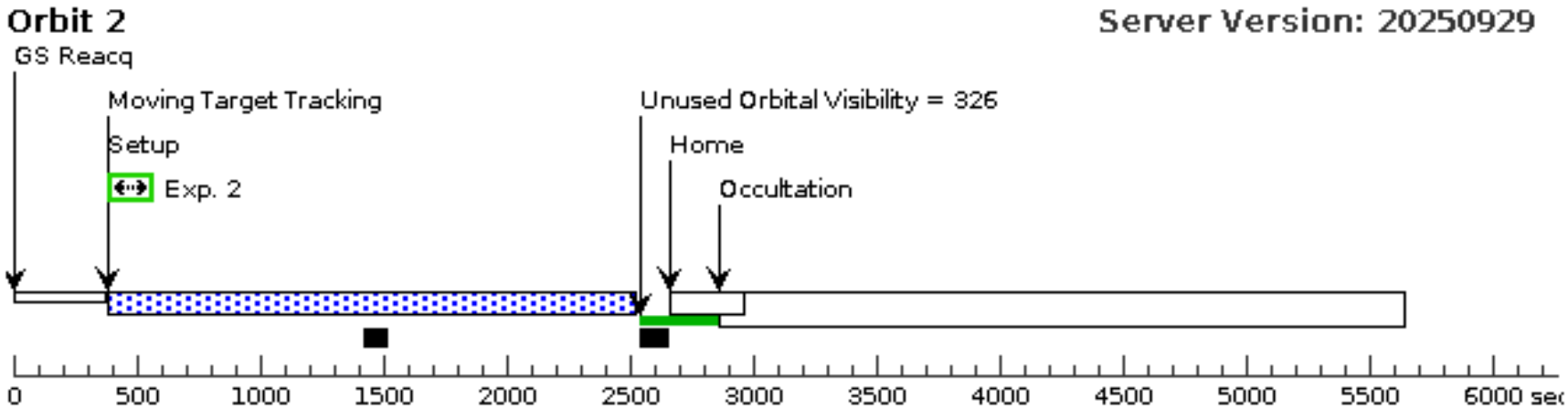
Comments: Description=Io Neutral Cloud COS Stare with No Io at its orbital ansa point east of Jupiter (would be the leading/dawn-side)
Extended=YES

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.sp.1366889)	(7) NCLOUD-EASTANSA	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH			2100 Secs (2100 Secs) *[==>]*	***[1]***
2	(COS.sp.1366889)	(7) NCLOUD-EASTANSA	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=4; BUFFER-TIME=1000; SEGMENT=BOTH			2000 Secs (2085 Secs) *[==>2085.0 Secs]*	***[2]***

Orbit Structure





Visit

Proposal 17470, IO_NCLOUD_WEST_COS-1 (11), implementation Wed Dec 31 16:02:10 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: COS/FUV

Special Requirements: SCHED 100%

Diagnostics

(IO_NCLOUD_WEST_COS-1 (11)) Warning (Form): A target acquisition should probably be performed before doing spectroscopy or coronography with STIS or COS.

(Exposure 1 (IO_NCLOUD_WEST_COS-1 (11))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 2 (IO_NCLOUD_WEST_COS-1 (11))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(IO_NCLOUD_WEST_COS-1 (11)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

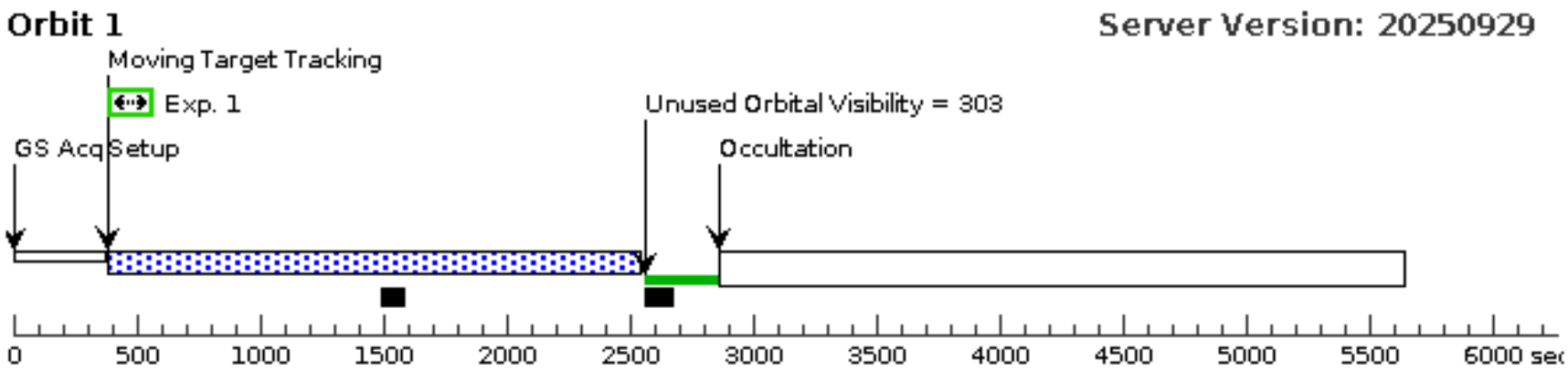
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(8)	NCLOUD-WESTANSA	STD=JUPITER	TYPE=TORUS,LONG=90,LAT=0,RAD=4.22e5,POLE_LONG=0,POLE_LAT=90		NOT OCC OF NCLOUD-WESTANSA BY JUPITER FROM EARTH, NOT ECL P PARTIAL OF NCLOUD-WESTANSA BY IO FROM EARTH, NOT ECL P PARTIAL OF NCLOUD-WESTANSA BY EUROPA FROM EARTH, NOT ECL P PARTIAL OF NCLOUD-WESTANSA BY GANYMEDE FROM EARTH, NOT ECL P PARTIAL OF NCLOUD-WESTANSA BY CALLISTO FROM EARTH, SEP OF NCLOUD-WESTANSA IO FROM EARTH GT 10", SEP OF NCLOUD-WESTANSA EUROPA FROM EARTH GT 10", SEP OF NCLOUD-WESTANSA GANYMEDE FROM EARTH GT 10", SEP OF NCLOUD-WESTANSA CALLISTO FROM EARTH GT 10", OLG OF NCLOUD-WESTANSA BETWEEN 260 280	EARTH

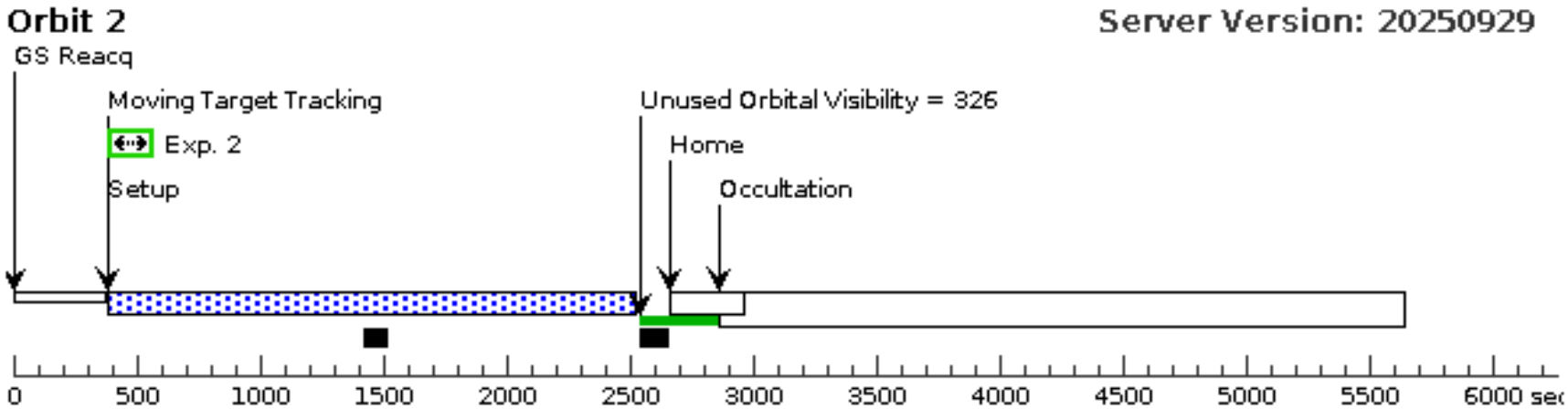
Comments: Description=Io Neutral Cloud COS Stare with No Io at its orbital ansa point wast of Jupiter (would be the trailing/dusk-side) Extended=YES

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.sp.1366889)	(8) NCLOUD-WESTANSA	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH			2000 Secs (2037 Secs) *[==>2037.0 Secs]*	***[1]***
2	(COS.sp.1366889)	(8) NCLOUD-WESTANSA	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=4; BUFFER-TIME=1000; SEGMENT=BOTH			2000 Secs (2085 Secs) *[==>2085.0 Secs]*	***[2]***

Orbit Structure





Visit

Proposal 17470, IO_NCLOUD_WEST_COS-2 (12), implementation Wed Dec 31 16:02:10 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: COS/FUV

Special Requirements: SCHED 100%; AFTER 02-AUG-2024:00:00:00

Diagnostics

(IO_NCLOUD_WEST_COS-2 (12)) Warning (Form): A target acquisition should probably be performed before doing spectroscopy or coronography with STIS or COS.

(Exposure 1 (IO_NCLOUD_WEST_COS-2 (12))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 2 (IO_NCLOUD_WEST_COS-2 (12))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(IO_NCLOUD_WEST_COS-2 (12)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

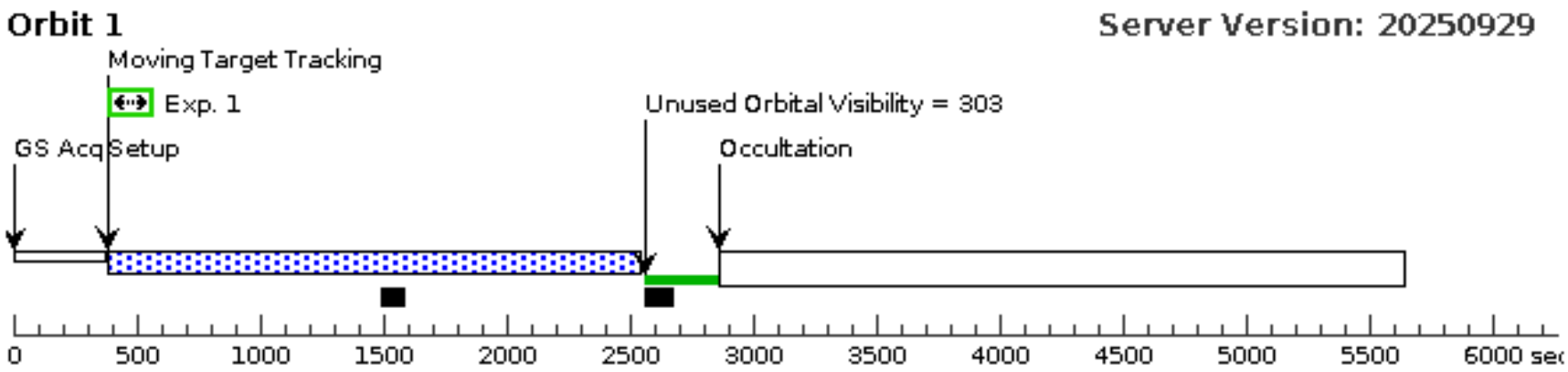
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(8)	NCLOUD-WESTANSA	STD=JUPITER	TYPE=TORUS,LONG=90,LAT=0,RAD=4.22e5,POLE_LONG=0,POLE_LAT=90		NOT OCC OF NCLOUD-WESTANSA BY JUPITER FROM EARTH, NOT ECL P PARTIAL OF NCLOUD-WESTANSA BY IO FROM EARTH, NOT ECL P PARTIAL OF NCLOUD-WESTANSA BY EUROPA FROM EARTH, NOT ECL P PARTIAL OF NCLOUD-WESTANSA BY GANYMEDE FROM EARTH, NOT ECL P PARTIAL OF NCLOUD-WESTANSA BY CALLISTO FROM EARTH, SEP OF NCLOUD-WESTANSA IO FROM EARTH GT 10", SEP OF NCLOUD-WESTANSA EUROPA FROM EARTH GT 10", SEP OF NCLOUD-WESTANSA GANYMEDE FROM EARTH GT 10", SEP OF NCLOUD-WESTANSA CALLISTO FROM EARTH GT 10", OLG OF NCLOUD-WESTANSA BETWEEN 260 280	EARTH

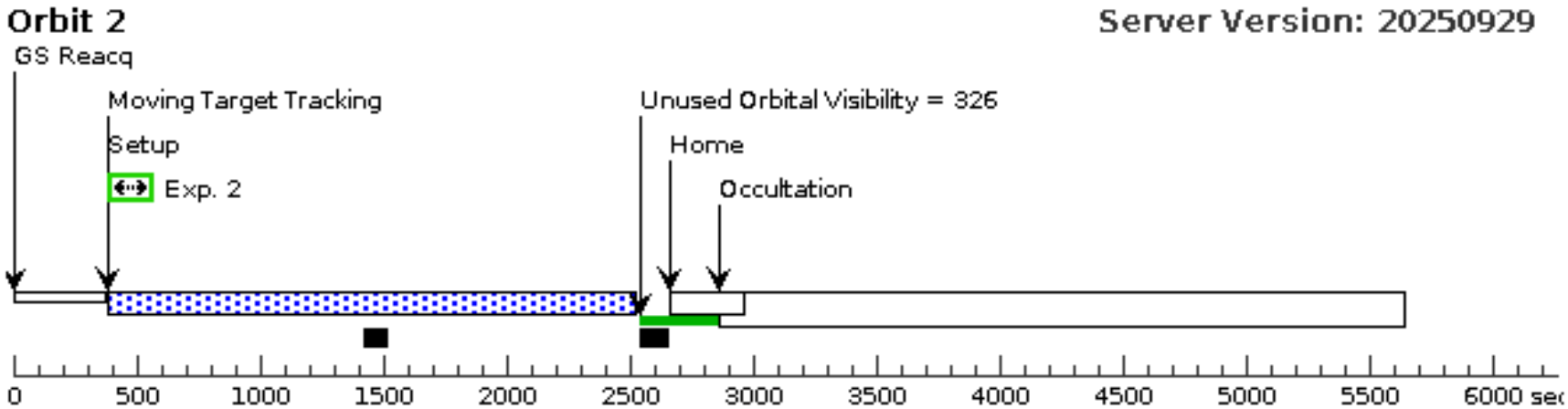
Comments: Description=Io Neutral Cloud COS Stare with No Io at its orbital ansa point wast of Jupiter (would be the trailing/dusk-side) Extended=YES

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.sp.1366889)	(8) NCLOUD-WESTANSA	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH			2000 Secs (2037 Secs) *[==>2037.0 Secs]*	***[1]***
2	(COS.sp.1366889)	(8) NCLOUD-WESTANSA	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=4; BUFFER-TIME=1000; SEGMENT=BOTH			2000 Secs (2085 Secs) *[==>2085.0 Secs]*	***[2]***

Orbit Structure





Visit

Proposal 17470, Io COS NUV Trailing Stare (17), completed Wed Dec 31 16:02:10 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: COS/NUV

Special Requirements: SCHED 100%; BETWEEN 21-DEC-2023:06:00:00 AND 21-DEC-2023:13:30:00

Comments: Search for Mg at and around Io, NUV reflectance spectra

Diagnostics

(Io COS NUV Trailing Stare (17)) Warning (Orbit Planner): GS ACQ SCENARIO REQUESTED INCONSISTENT WITH VISIT GYRO MODE

(Io COS NUV Trailing Stare (17)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Io COS NUV Trailing Stare (17)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Exposure 1 (Io COS NUV Trailing Stare (17)) special requirements) Warning (Form): The specified GS Acq Scenario is not in the current list of valid scenarios.

(Exposure 2 (Io COS NUV Trailing Stare (17))) Warning (Form): The EXTENDED optional parameter is deprecated and ignored. Please set EXTENDED on the target.

(Exposure 3 (Io COS NUV Trailing Stare (17))) Warning (Form): The EXTENDED optional parameter is deprecated and ignored. Please set EXTENDED on the target.

(Io COS NUV Trailing Stare (17)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

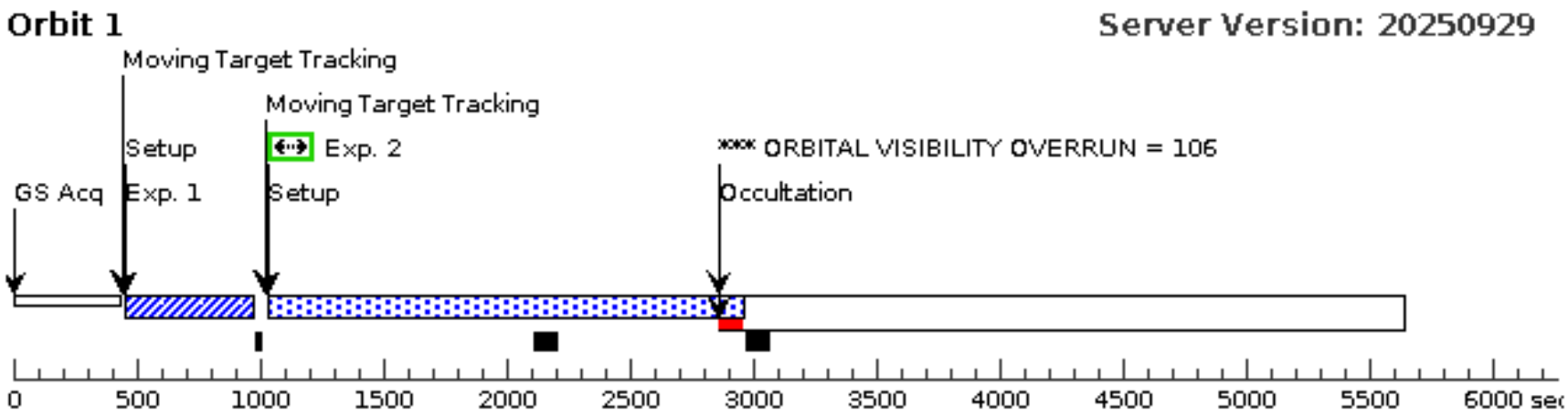
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(9)	IO-NCLOUD-TRAILING-NUV	STD=JUPITER	STD=IO		NOT OCC OF IO-NCLOUD-TRAILING-NUV BY JUPITER FROM EARTH, SEP OF IO-NCLOUD-TRAILING-NUV EUROPA FROM EARTH GT 10", SEP OF IO-NCLOUD-TRAILING-NUV GANYMEDE FROM EARTH GT 10", SEP OF IO-NCLOUD-TRAILING-NUV CALLISTO FROM EARTH GT 10"	EARTH

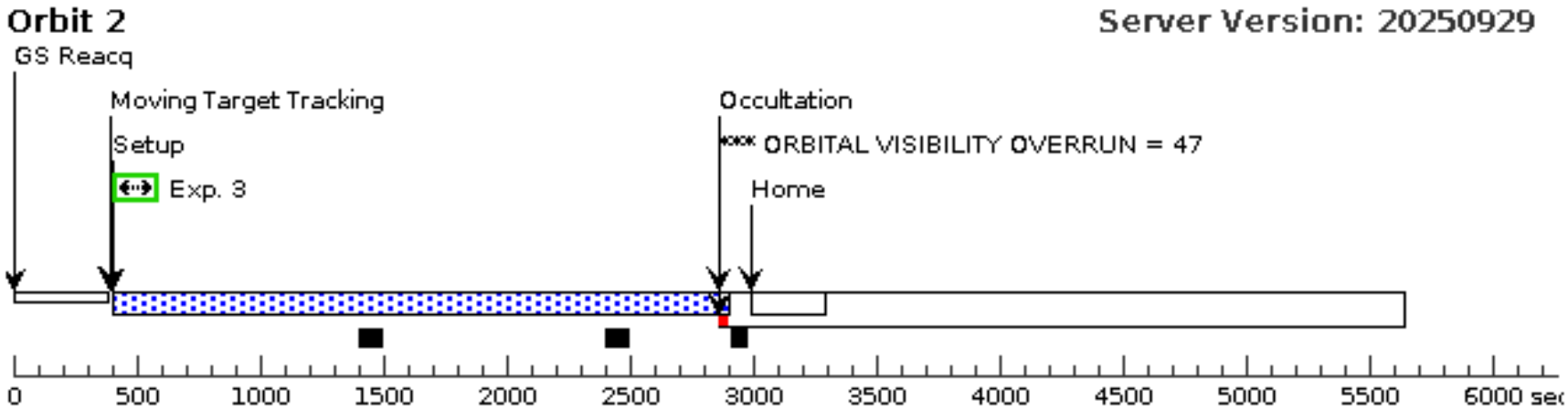
Comments: Description=Io Neutral Cloud COS Stare viewing Io's trailing hemisphere
Extended=YES

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.sa.1010061)	(9) IO-NCLOUD-TRAILING-NUV	COS/NUV, ACQ/SEARCH, BOA	G230L 2950 A	SCAN-SIZE=3; CENTER=FLUX-WT-FLR	GS ACQ SCENARIO BASE1BR		1 Secs (1 Secs) [==>]	[1]
	Comments: This acquisition mode/setup was used successfully used in program 15147.								
2	(COS.sa.1010060)	(9) IO-NCLOUD-TRAILING-NUV	COS/NUV, TIME-TAG, PSA	G230L 2950 A	FP-POS=2; BUFFER-TIME=1000; EXTENDED=YES			300 Secs (1835 Secs) [==>1835.0 Secs]	[1]
3	(COS.sa.1010060)	(9) IO-NCLOUD-TRAILING-NUV	COS/NUV, TIME-TAG, PSA	G230L 2950 A	FP-POS=2; BUFFER-TIME=1000; EXTENDED=YES			2486 Secs (2486 Secs) [==>]	[2]

Orbit Structure





Visit	**Proposal 17470, Europa Neutral Cloud Leading (18), implementation** Wed Dec 31 16:02:10 GMT 2025 **Diagnostic Status: Warning** Scientific Instruments: COS/FUV, STIS/FUV-MAMA, COS/NUV Special Requirements: SCHED 100% *Comments: These Europa COS and STIS visits with 4 orbits can be split into 2 visits with 2 orbits each instrument if it helps scheduling or reduces risk of gyro problems.*
Diagnostics	(Europa Neutral Cloud Leading (18)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions at a given COS cenwave (or 2 positions for certain exception cases). See extended explanation in the diagnostic browser. (Europa Neutral Cloud Leading (18)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (Europa Neutral Cloud Leading (18)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (Europa Neutral Cloud Leading (18)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (Europa Neutral Cloud Leading (18)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (Europa Neutral Cloud Leading (18)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (Europa Neutral Cloud Leading (18)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (Europa Neutral Cloud Leading (18)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (Europa Neutral Cloud Leading (18)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (Exposure 2 (Sequence 2-4 Non-Int in Europa Neutral Cloud Leading (18))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details. (Exposure 3 (Sequence 2-4 Non-Int in Europa Neutral Cloud Leading (18))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details. (Exposure 4 (Sequence 2-4 Non-Int in Europa Neutral Cloud Leading (18))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details. (Exposure 5 (Sequence 5-7 Non-Int in Europa Neutral Cloud Leading (18))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details. (Exposure 6 (Sequence 5-7 Non-Int in Europa Neutral Cloud Leading (18))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details. (Exposure 7 (Sequence 5-7 Non-Int in Europa Neutral Cloud Leading (18))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details. (STIS 52x2 stare (18.008)) Warning (Form): Sensitive exposures should have an ETC run number provided. (STIS 52x2 stare (18.009)) Warning (Form): Sensitive exposures should have an ETC run number provided. (Europa Neutral Cloud Leading (18)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(2)	IO-NCLOUD-LEADING	STD=JUPITER	STD=IO		NOT OCC OF IO-NCLOUD-LEADING BY JUPITER FROM EARTH, SEP OF IO-NCLOUD-LEADING EUROPA FROM EARTH GT 10", SEP OF IO-NCLOUD-LEADING GANYMEDE FROM EARTH GT 10", SEP OF IO-NCLOUD-LEADING CALLISTO FROM EARTH GT 10", OLG OF IO-NCLOUD-LEADING BETWEEN 45 135	EARTH
Comments: Description=Io Neutral Cloud STIS Step-scan & COS-Scan viewing Io's leading hemisphere Extended=YES						
(10)	EUROPA-NCLOUD-EASTANSA	STD=JUPITER	TYPE=TORUS,LONG=270,LAT=0,RAD=6.65e5,POLE_LONG=0,POLE_LAT=90		OLG OF EUROPA-NCLOUD-EASTANSA BETWEEN 45 135, NOT OCC OF EUROPA-NCLOUD-EASTANSA BY JUPITER FROM EARTH, NOT ECL P PARTIAL OF EUROPA-NCLOUD-EASTANSA BY IO FROM EARTH, NOT ECL P PARTIAL OF EUROPA-NCLOUD-EASTANSA BY EUROPA FROM EARTH, NOT ECL P PARTIAL OF EUROPA-NCLOUD-EASTANSA BY GANYMEDE FROM EARTH, NOT ECL P PARTIAL OF EUROPA-NCLOUD-EASTANSA BY CALLISTO FROM EARTH, SEP OF EUROPA-NCLOUD-EASTANSA IO FROM EARTH GT 10", SEP OF EUROPA-NCLOUD-EASTANSA EUROPA FROM EARTH GT 10", SEP OF EUROPA-NCLOUD-EASTANSA GANYMEDE FROM EARTH GT 10", SEP OF EUROPA-NCLOUD-EASTANSA CALLISTO FROM EARTH GT 10"	EARTH
Comments: Description=Europa Neutral Cloud STIS Step-scan & COS-Scan viewing Europa's leading hemisphere Extended=YES						

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.sa.1010061)	(10) EUROPA-NCLOUD-EASTANSA	COS/NUV, ACQ/SEARCH, PSA	G230L 3000 A	SCAN-SIZE=3; CENTER=FLUX-WT-FLR			1 Secs (1 Secs) *[==>]*	*[1]*

Comments: This acquisition mode/setup was used successfully used in program 15147

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	(COS.sp.1366889)	(2) IO-NCLOUD-LEADING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,0	Sequence 2-4 Non-Int in Europa Neutral Cloud Leading (18)	307 Secs (307 Secs) *[==>]*	*[1]*

Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up.

Notes from ProjID=11539:
ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.
Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.

The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments settings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.

ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	(COS.sp.1366889)	(2) IO-NCLOUD-LEADING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,2.5	Sequence 2-4 Non-Int in Europa Neutral Cloud Leading (18)	307 Secs (307 Secs) *[==>]*	*[1]*

Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up.

Notes from ProjID=11539:
ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.
Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.

The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments settings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.

ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
4	(COS.sp.1366889)	(2) IO-NCLOUD-LEADING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,5	Sequence 2-4 Non-Int in Europa Neutral Cloud Leading (18)	307 Secs (307 Secs) *[==>]*	*[1]*

Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up.

Notes from ProjID=11539:
ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.
Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.

The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments settings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.

ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.

5	(COS.sp.1366889)	(2) IO-NCLOUD-LEADING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,0	Sequence 5-7 Non-Int in Europa Neutral Cloud Leading (18)	594 Secs (594 Secs) *[==>]*	***[2]***

Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up.

Notes from ProjID=11539:
ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.
Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.

The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments settings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.

ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.

6	(COS.sp.1366889)	(2) IO-NCLOUD-LEADING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 2.5,0	Sequence 5-7 Non-Int in Europa Neutral Cloud Leading (18)	594 Secs (594 Secs) *[==>]*	***[2]***

Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up.

Notes from ProjID=11539:
ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.
Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.

The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments settings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.

ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.

7	(COS.sp.1366889)	(2) IO-NCLOUD-LEADING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 5,0	Sequence 5-7 Non-Int in Europa Neutral Cloud Leading (18)	594 Secs (594 Secs) *[==>]*	***[2]***

Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up.

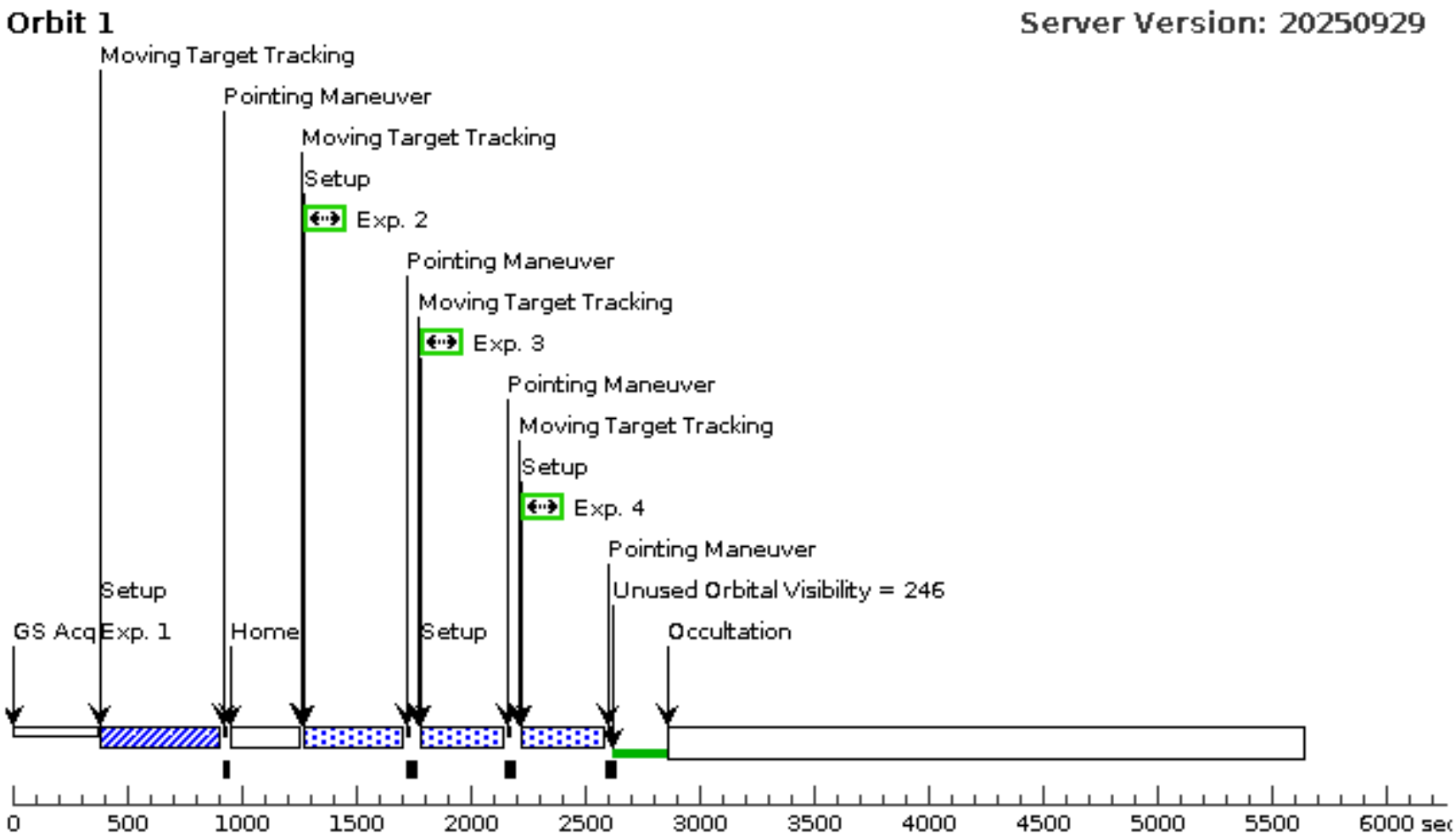
Notes from ProjID=11539:
ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.
Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.

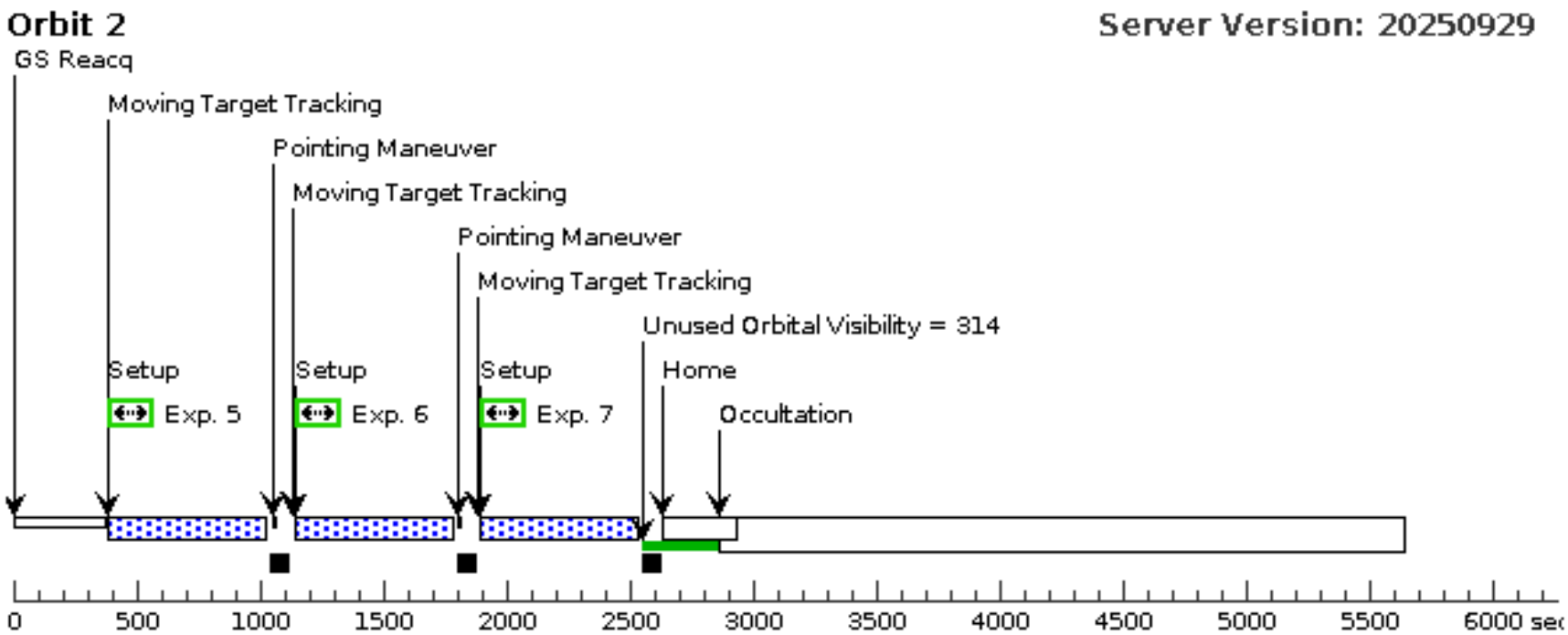
The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments settings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.

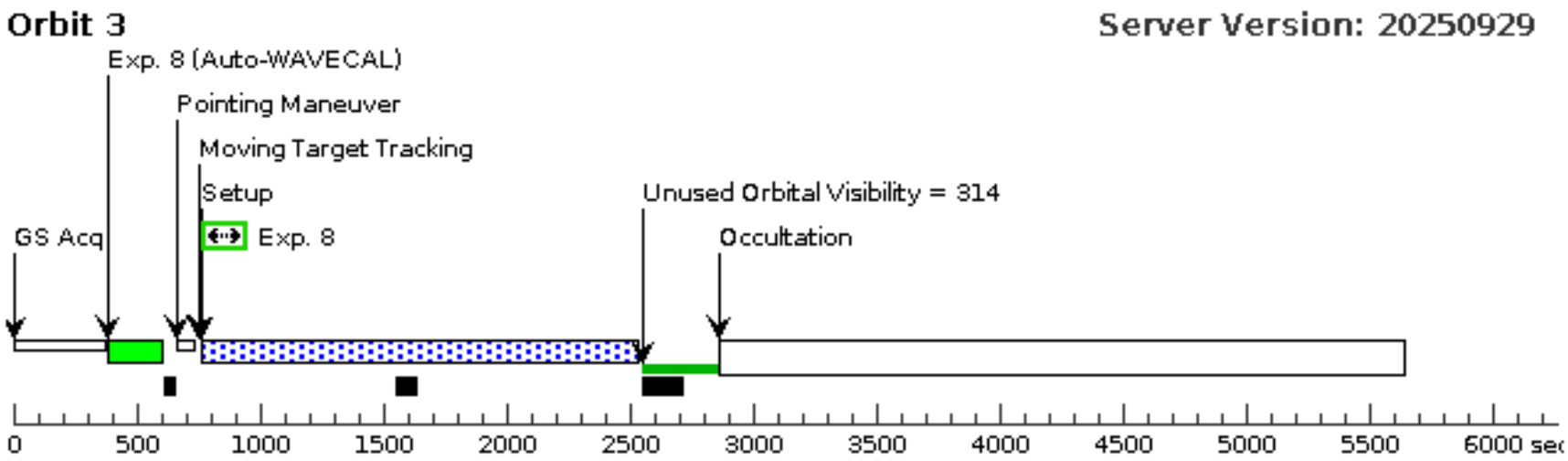
ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.

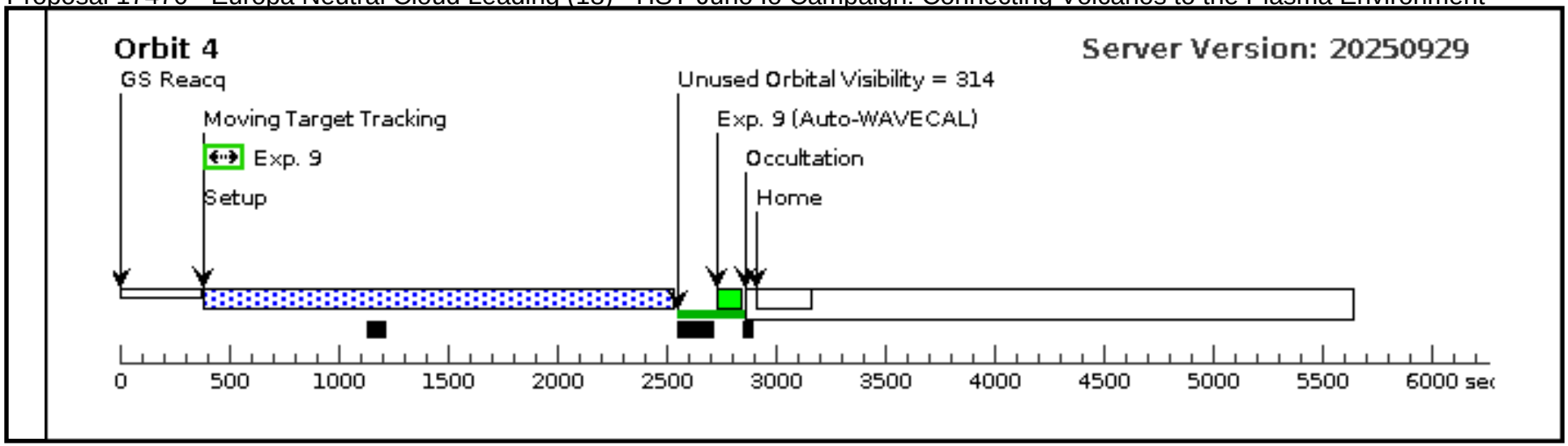
8	STIS 52x2 stare	(10) EUROPA-NCLOUD-EASTANSA	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG null,-5.0		1719 Secs (1719 Secs) *[==>]*	***[3]***
9	STIS 52x2 stare	(10) EUROPA-NCLOUD-EASTANSA	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG null,-5.0		2136 Secs (2136 Secs) *[==>]*	***[4]***

Orbit Structure




Orbit 2
Server Version: 20250929
GS Reacq
Moving Target Tracking
Pointing Maneuver
Moving Target Tracking
Pointing Maneuver
Moving Target Tracking
Unused Orbital Visibility = 314
Setup
Setup
Setup
Home
Exp. 5
Exp. 6
Exp. 7
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec


Orbit 3
Server Version: 20250929
Exp. 8 (Auto-WAVECAL)
Pointing Maneuver
Moving Target Tracking
Setup
Unused Orbital Visibility = 314
GS Acq
Exp. 8
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec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Server Version: 20250929
GS Reacq
Moving Target Tracking
Exp. 9
Setup
Unused Orbital Visibility = 314
Exp. 9 (Auto-WAVECAL)
Occultation
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit	**Proposal 17470, Europa Neutral Cloud Trailing (19), implementation** Wed Dec 31 16:02:10 GMT 2025 **Diagnostic Status: Warning** Scientific Instruments: COS/FUV, STIS/FUV-MAMA, COS/NUV Special Requirements: SCHED 100% *Comments: These Europa COS and STIS visits with 4 orbits can be split into 2 visits with 2 orbits each instrument if it helps scheduling or reduces risk of gyro problems.*
Diagnostics	(Europa Neutral Cloud Trailing (19)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions at a given COS cenwave (or 2 positions for certain exception cases). See extended explanation in the diagnostic browser. (Europa Neutral Cloud Trailing (19)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (Europa Neutral Cloud Trailing (19)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (Europa Neutral Cloud Trailing (19)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (Europa Neutral Cloud Trailing (19)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (Europa Neutral Cloud Trailing (19)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (Europa Neutral Cloud Trailing (19)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (Europa Neutral Cloud Trailing (19)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (Europa Neutral Cloud Trailing (19)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (Exposure 2 (Sequence 2-4 Non-Int in Europa Neutral Cloud Trailing (19))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details. (Exposure 3 (Sequence 2-4 Non-Int in Europa Neutral Cloud Trailing (19))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details. (Exposure 4 (Sequence 2-4 Non-Int in Europa Neutral Cloud Trailing (19))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details. (Exposure 5 (Sequence 5-7 Non-Int in Europa Neutral Cloud Trailing (19))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details. (Exposure 6 (Sequence 5-7 Non-Int in Europa Neutral Cloud Trailing (19))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details. (Exposure 7 (Sequence 5-7 Non-Int in Europa Neutral Cloud Trailing (19))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details. (STIS 52x2 stare (19.008)) Warning (Form): Sensitive exposures should have an ETC run number provided. (STIS 52x2 stare (19.009)) Warning (Form): Sensitive exposures should have an ETC run number provided. (Europa Neutral Cloud Trailing (19)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(2)	IO-NCLOUD-LEADING	STD=JUPITER	STD=IO		NOT OCC OF IO-NCLOUD-LEADING BY JUPITER FROM EARTH, SEP OF IO-NCLOUD-LEADING EUROPA FROM EARTH GT 10", SEP OF IO-NCLOUD-LEADING GANYMEDE FROM EARTH GT 10", SEP OF IO-NCLOUD-LEADING CALLISTO FROM EARTH GT 10", OLG OF IO-NCLOUD-LEADING BETWEEN 45 135	EARTH
Comments: Description=Io Neutral Cloud STIS Step-scan & COS-Scan viewing Io's leading hemisphere Extended=YES						
(11)	EUROPA-NCLOUD-WESTANSA	STD=JUPITER	TYPE=TORUS,LONG=90,LAT=0,RAD=6.65e5,POLE_LONG=0,POLE_LAT=90		OLG OF EUROPA-NCLOUD-WESTANSA BETWEEN 225 315, NOT OCC OF EUROPA-NCLOUD-WESTANSA BY JUPITER FROM EARTH, NOT ECL P PARTIAL OF EUROPA-NCLOUD-WESTANSA BY IO FROM EARTH, NOT ECL P PARTIAL OF EUROPA-NCLOUD-WESTANSA BY EUROPA FROM EARTH, NOT ECL P PARTIAL OF EUROPA-NCLOUD-WESTANSA BY GANYMEDE FROM EARTH, NOT ECL P PARTIAL OF EUROPA-NCLOUD-WESTANSA BY CALLISTO FROM EARTH, SEP OF EUROPA-NCLOUD-WESTANSA IO FROM EARTH GT 10", SEP OF EUROPA-NCLOUD-WESTANSA EUROPA FROM EARTH GT 10", SEP OF EUROPA-NCLOUD-WESTANSA GANYMEDE FROM EARTH GT 10", SEP OF EUROPA-NCLOUD-WESTANSA CALLISTO FROM EARTH GT 10"	EARTH
Comments: Description=Europa Neutral Cloud STIS Step-scan & COS-Scan viewing Europa's trailing hemisphere Extended=YES						

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.sa.1010061)	(11) EUROPA-NCLOUD-WESTANSA	COS/NUV, ACQ/SEARCH, PSA	G230L 3000 A	SCAN-SIZE=3; CENTER=FLUX-WT-FLR			1 Secs (1 Secs) *[==>]*	***[1]***
Comments: This acquisition mode/setup was used successfully used in program 15147									
2	(COS.sp.1366889)	(2) IO-NCLOUD-LEADING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,0	Sequence 2-4 Non-Int in Europa Neutral Cloud Trailing (19)	307 Secs (307 Secs) *[==>]*	***[1]***
Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up. *Notes from ProjID=11539:* *ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.* *Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.* *The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments settings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.* *ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.*									
3	(COS.sp.1366889)	(2) IO-NCLOUD-LEADING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,2.5	Sequence 2-4 Non-Int in Europa Neutral Cloud Trailing (19)	307 Secs (307 Secs) *[==>]*	***[1]***
Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up. *Notes from ProjID=11539:* *ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.* *Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.* *The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments settings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.* *ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.*									
4	(COS.sp.1366889)	(2) IO-NCLOUD-LEADING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,5	Sequence 2-4 Non-Int in Europa Neutral Cloud Trailing (19)	307 Secs (307 Secs) *[==>]*	***[1]***
Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up. *Notes from ProjID=11539:* *ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.* *Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.* *The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments settings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.* *ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.*									

5	(COS.sp.1366889)	(2) IO-NCLOUD-LEADING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 0,0	Sequence 5-7 Non-Int in Europa Neutral Cloud Trailing (19)	594 Secs (594 Secs) *[==>]*	***[2]***

Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up.

Notes from ProjID=11539:
ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.
Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.

The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments settings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.

ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.

6	(COS.sp.1366889)	(2) IO-NCLOUD-LEADING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 2.5,0	Sequence 5-7 Non-Int in Europa Neutral Cloud Trailing (19)	594 Secs (594 Secs) *[==>]*	***[2]***

Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up.

Notes from ProjID=11539:
ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.
Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.

The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments settings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.

ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.

7	(COS.sp.1366889)	(2) IO-NCLOUD-LEADING	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=1000; SEGMENT=BOTH	POS TARG 5,0	Sequence 5-7 Non-Int in Europa Neutral Cloud Trailing (19)	594 Secs (594 Secs) *[==>]*	***[2]***

Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up.

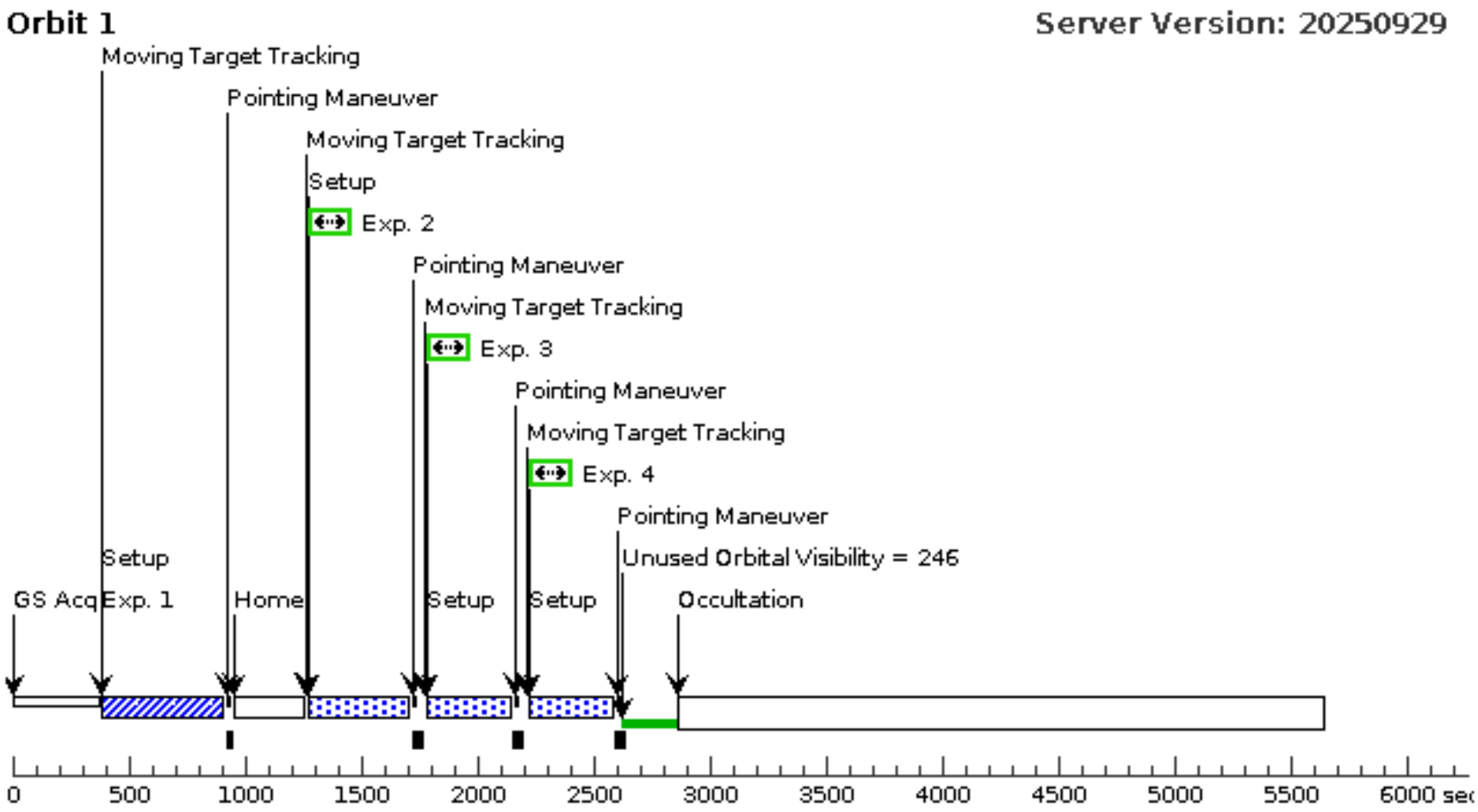
Notes from ProjID=11539:
ETC: COS78468 Used 3 strongest lines in this waveband (excluding Lyman alpha) from HST/FOS measurements by Clarke et al 1994, JGR 99., along with high airglow.
Gives buffer time of 2/3 of 2919. We decrease this to 800s to allow for continuum or scatter.

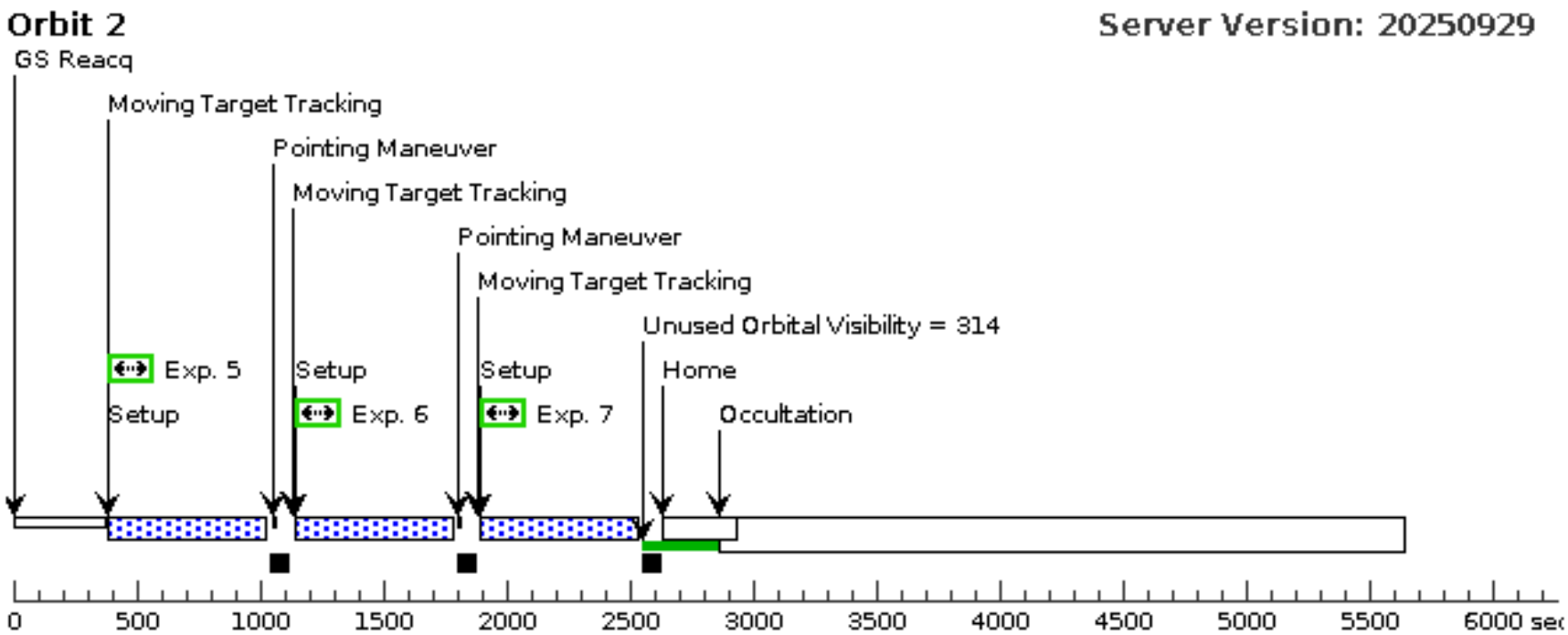
The grating setting is chosen to detect the Io emission lines at 1256, 1304, 1356, 1389, and 1429 A. We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments settings during the exposure. HOWEVER we should choose the best single FP-POS value, to avoid (if possible) putting emission lines of interest on known problem areas of the detector.

ProjID 15848 and others use the c1291 instead of c1327 which has restrictions on lifetime position due to gain sag, and I Carl recalls that we couldn't use it under the COS 2025 restrictions.

8	STIS 52x2 stare	(11) EUROPA-NCLOUD-WESTANSA	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG null,-5.0		1719 Secs (1719 Secs) *[==>]*	***[3]***
9	STIS 52x2 stare	(11) EUROPA-NCLOUD-WESTANSA	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG null,-5.0		2136 Secs (2136 Secs) *[==>]*	***[4]***

Orbit Structure

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Moving Target Tracking
Pointing Maneuver
Moving Target Tracking
Pointing Maneuver
Moving Target Tracking
Unused Orbital Visibility = 314
Exp. 5
Setup
Setup
Exp. 6
Setup
Exp. 7
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Occultation
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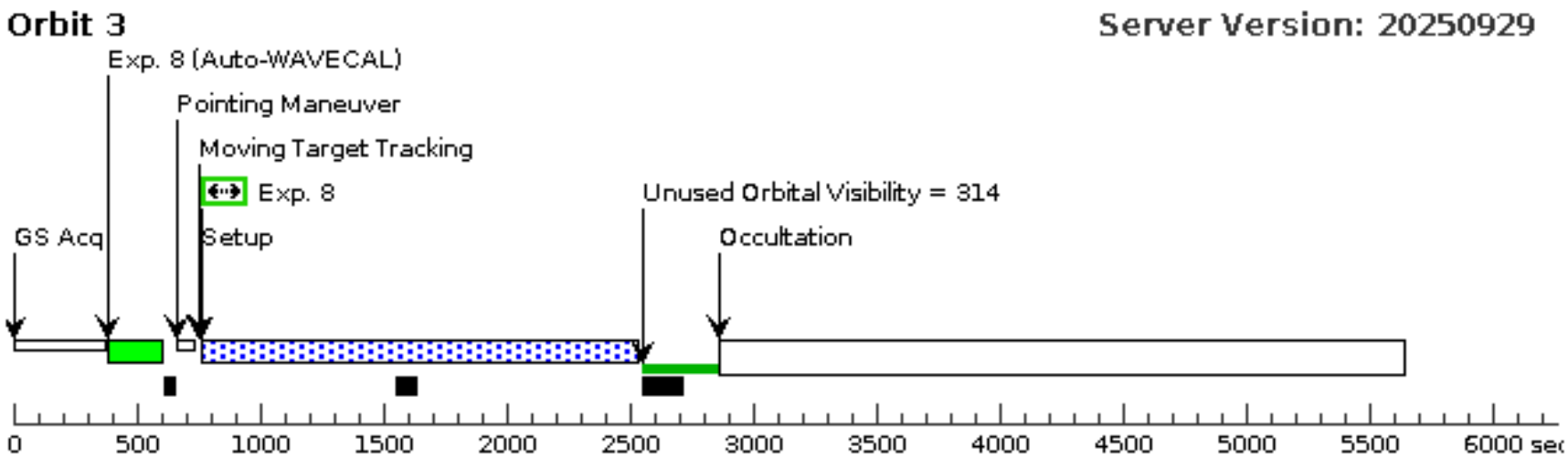
6000 sec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Exp. 8 (Auto-WAVECAL)
Pointing Maneuver
Moving Target Tracking
Exp. 8
Setup
GS Acq
Unused Orbital Visibility = 314
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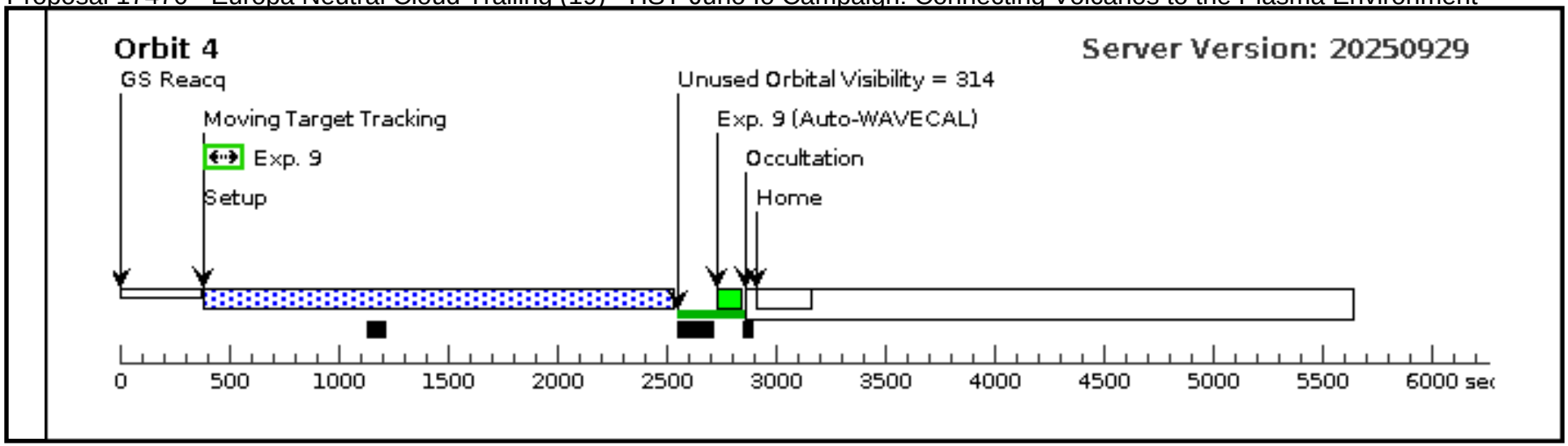
5000
5500
6000 sec


Orbit 4
Server Version: 20250929
GS Reacq
Moving Target Tracking
Exp. 9
Setup
Unused Orbital Visibility = 314
Exp. 9 (Auto-WAVECAL)
Occultation
Home
0
500
1000
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6000 sec

Visit

Proposal 17470, STIS-FUVAURORA-PJ57a (20), completed Wed Dec 31 16:02:10 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%; BETWEEN 31-JAN-2024:06:20:00 AND 31-JAN-2024:07:20:00

Comments: This visit is to be scheduled at close in time as possible to the flyby at Io by Juno with clostest approach on 2023-12-30 (08:35 UTC Juno time)

Diagnostics

(STIS-FUVAURORA-PJ57a (20)) Warning (Orbit Planner): GS ACQ SCENARIO REQUESTED INCONSISTENT WITH VISIT GYRO MODE

(IO1 ACQ (20.001) special requirements) Warning (Form): The specified GS Acq Scenario is not in the current list of valid scenarios.

(IO1 (20.002)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(IO2 (20.003)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(IO2 (20.004)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(STIS-FUVAURORA-PJ57a (20)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(20)	IO-AURORA-PJ57	STD=JUPITER	STD=IO		NOT OCC OF IO-AURORA-PJ57 BY JUPITER FROM EARTH, SEP OF IO-AURORA-PJ57 EUROPA FROM EARTH GT 10", SEP OF IO-AURORA-PJ57 GANYMEDE FROM EARTH GT 10", SEP OF IO-AURORA-PJ57 CALLISTO FROM EARTH GT 10"	EARTH

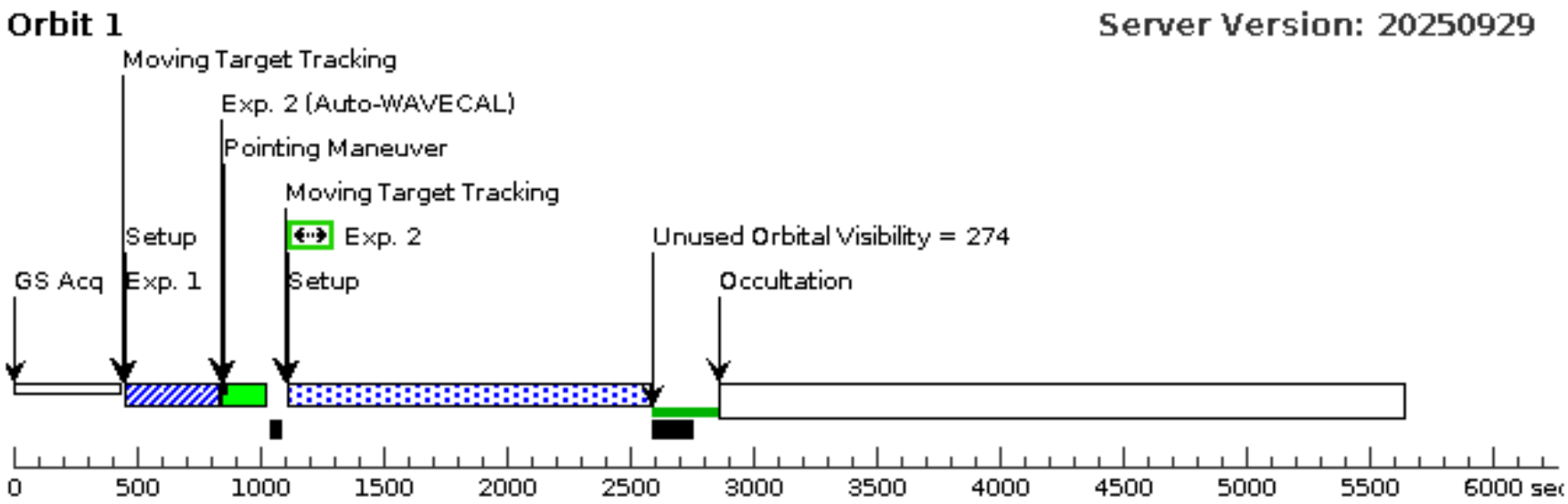
Comments: Description=Io aurora STIS G140L 52x2 during Juno PJ57
Extended=YES

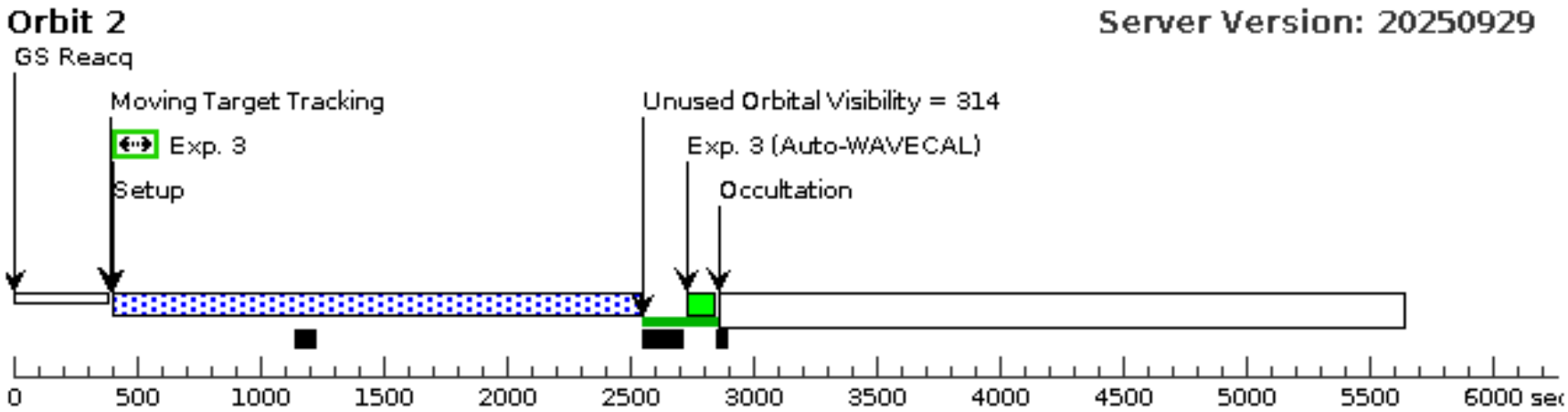
Exposures

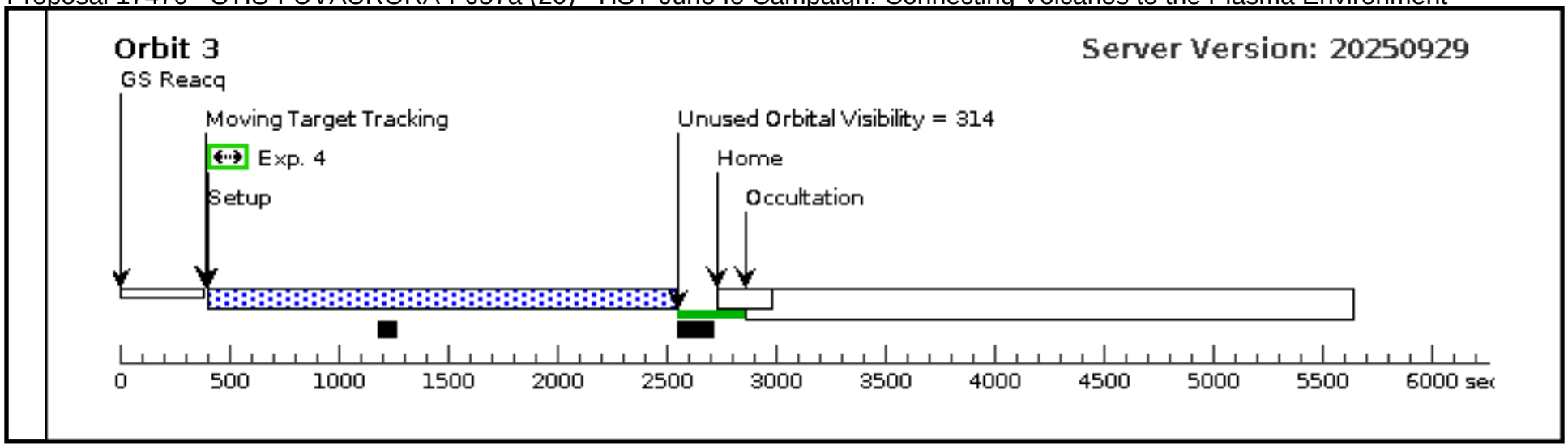
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	IO1 ACQ	(20) IO-AURORA-PJ57	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=23; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER	GS ACQ SCENARIO BASE1BR		0.1 Secs (0.1 Secs)	
								[==>]	***[1]***
2	IO1	(20) IO-AURORA-PJ57	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		1400 Secs (1413 Secs)	
								[==>1413.0 Secs]	***[1]***
3	IO2	(20) IO-AURORA-PJ57	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		2200 Secs (2124 Secs)	
								[==>2124.0 Secs]	***[2]***
4	IO2	(20) IO-AURORA-PJ57	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		2200 Secs (2084 Secs)	
								[==>2084.0 Secs]	***[3]***

Comments: At the time of PJ57 (2023-12-31), Io's diameter is 1.125 arcesc. Thus the checkbox is set to 1.13/0.05 = 23 pixels here.

Orbit Structure






Orbit 3
Server Version: 20250929
GS Reacq
Moving Target Tracking
Exp. 4
Setup
Unused Orbital Visibility = 314
Home
Occultation
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4000
4500
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5500
6000 sec

Visit

Proposal 17470, STIS-FUVAURORA-PJ57b (21), completed Wed Dec 31 16:02:10 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%

Comments: This visit is to be scheduled at close in time as possible to the flyby at Io by Juno with clostest approach on 2023-12-30 (08:35 UTC Juno time); Let's reschedule for PJ64 proximity in Aug 20 (24.233) 22:52 to Aug 21 (24.234) 01:13

Diagnostics

(IO1 (21.002)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(IO2 (21.003)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(IO2 (21.004)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(STIS-FUVAURORA-PJ57b (21)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

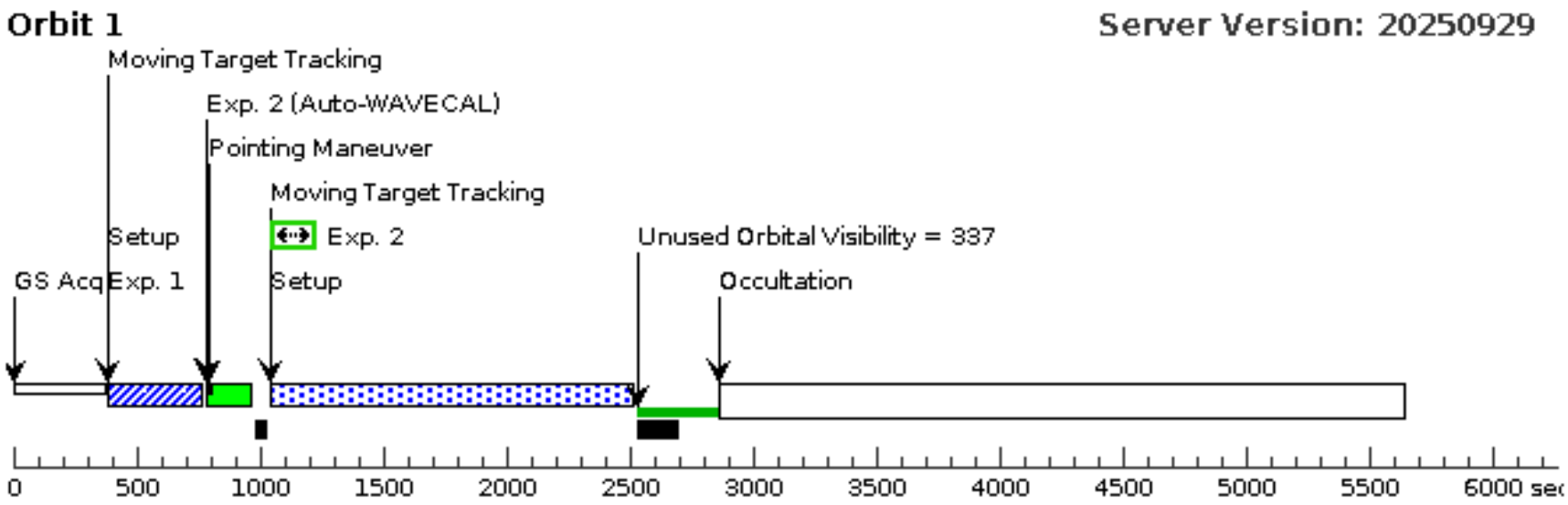
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(20)	IO-AURORA-PJ57	STD=JUPITER	STD=IO		NOT OCC OF IO-AURORA-PJ57 BY JUPITER FROM EARTH, SEP OF IO-AURORA-PJ57 EUROPA FROM EARTH GT 10", SEP OF IO-AURORA-PJ57 GANYMEDE FROM EARTH GT 10", SEP OF IO-AURORA-PJ57 CALLISTO FROM EARTH GT 10"	EARTH

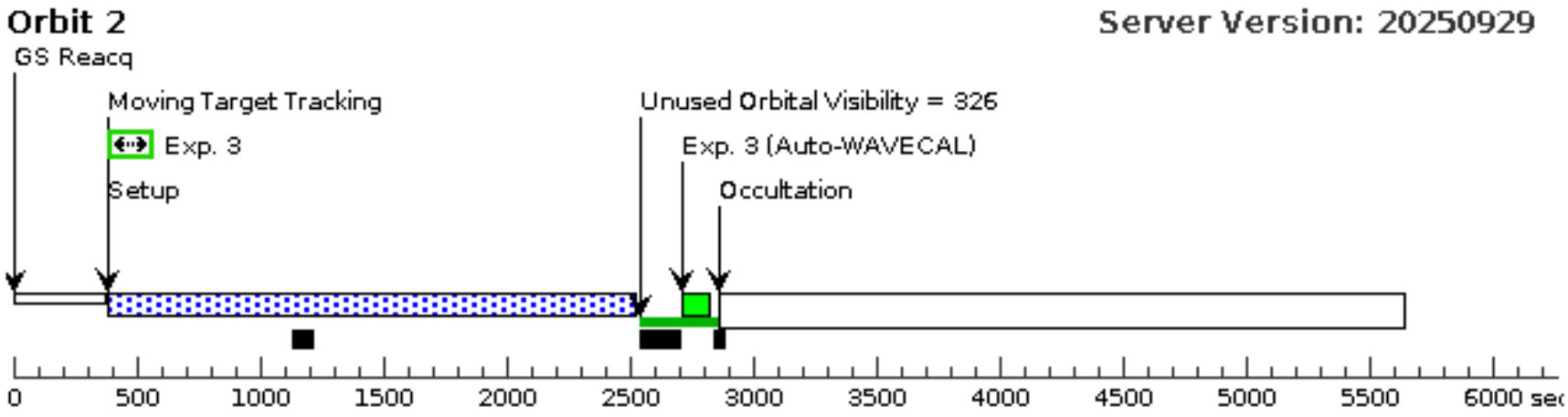
Comments: Description=Io aurora STIS G140L 52x2 during Juno PJ57
Extended=YES

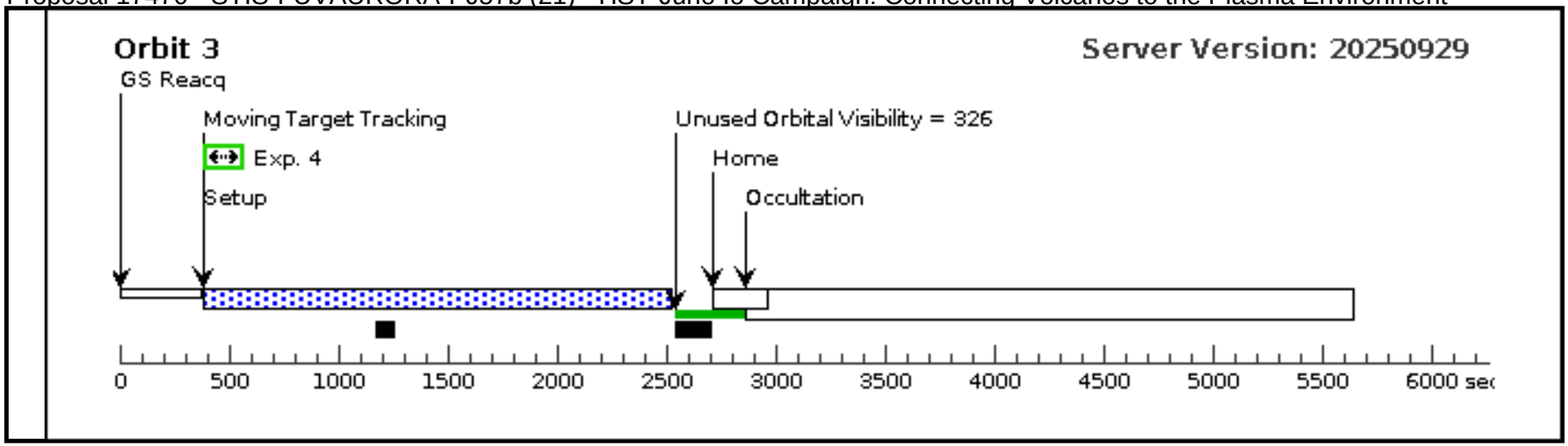
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	IO1 ACQ	(20) IO-AURORA-PJ57	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=23; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER			0.1 Secs (0.1 Secs) *[==>]*	*[1]*
Comments: At the time of PJ57 (2023-12-31), Io's diameter is 1.125 arcesc. Thus the checkbox is set to 1.13/0.05 = 23 pixels here.									
2	IO1	(20) IO-AURORA-PJ57	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		1400 Secs (1413 Secs) *[==>1413.0 Secs]*	*[1]*
3	IO2	(20) IO-AURORA-PJ57	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		2200 Secs (2124 Secs) *[==>2124.0 Secs]*	*[2]*
4	IO2	(20) IO-AURORA-PJ57	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		2200 Secs (2084 Secs) *[==>2084.0 Secs]*	*[3]*

Orbit Structure






Orbit 3
Server Version: 20250929
GS Reacq
Moving Target Tracking
Exp. 4
Setup
Unused Orbital Visibility = 326
Home
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17470, STIS-FUVAURORA-UVS-PJ67 (22), implementation Wed Dec 31 16:02:10 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%

Comments: This visit is to be scheduled at close in time as possible to a time when Juno-UVS observes Io around PJ67 (starting around 2024-11-24 13:05)

Diagnostics

(IO1 (22.002)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(IO2 (22.003)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(STIS-FUVAURORA-UVS-PJ67 (22)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(25)	IO-AURORA-UVS1	STD=JUPITER	STD=IO		NOT OCC OF IO-AURORA-UVS1 BY JUPITER FROM EARTH, SEP OF IO-AURORA-UVS1 EUROPA FROM EARTH GT 10", SEP OF IO-AURORA-UVS1 GANYMEDE FROM EARTH GT 10", SEP OF IO-AURORA-UVS1 CALLISTO FROM EARTH GT 10"	EARTH

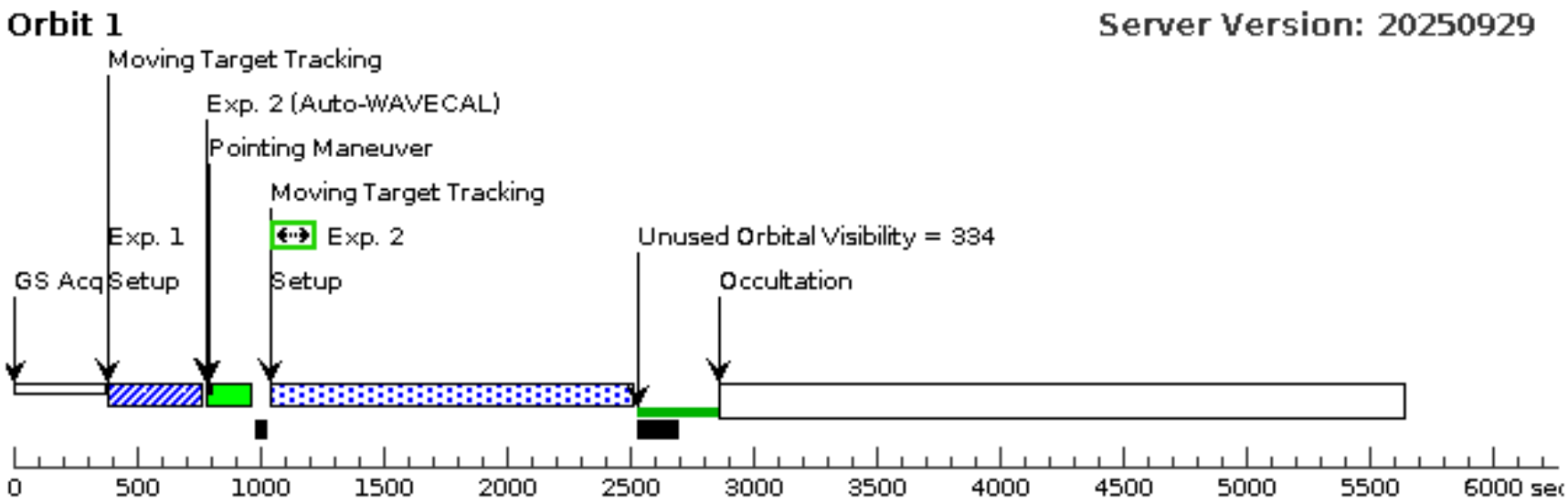
Comments: Description=Io aurora STIS G140L 52x2 during Juno-UVS Coordinated Obs. 1
Extended=YES

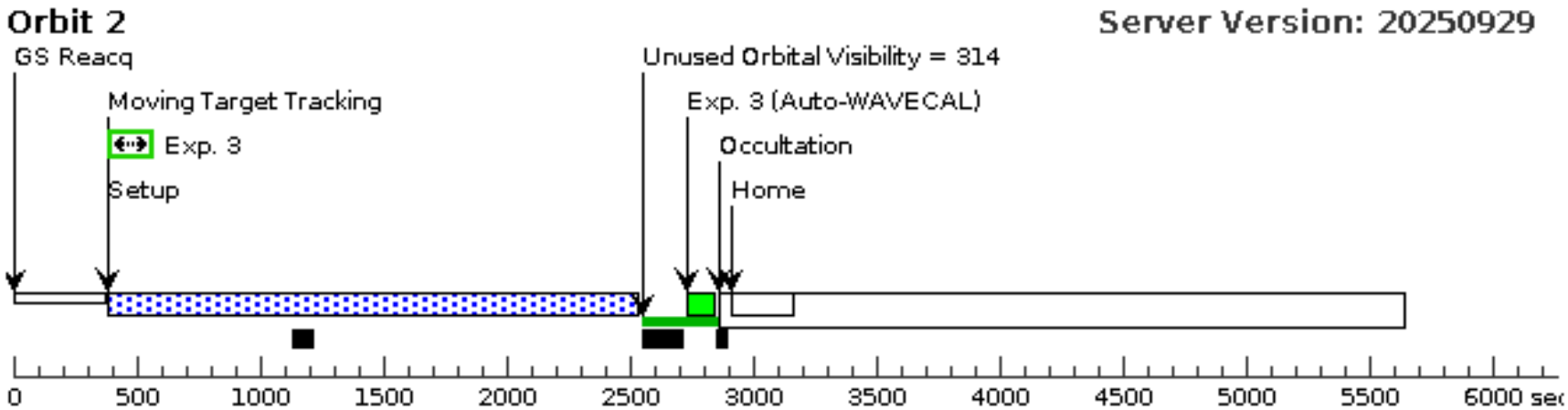
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	IO1 ACQ	(25) IO-AURORA-UVS1	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=23; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER			0.1 Secs (0.1 Secs)	
								[==>]	*[1]*
2	IO1	(25) IO-AURORA-UVS1	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		1400 Secs (1416 Secs)	
								[==>1416.0 Secs]	*[1]*
3	IO2	(25) IO-AURORA-UVS1	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		2200 Secs (2136 Secs)	
								[==>2136.0 Secs]	*[2]*

Comments: November 2nd, 2025 Io is 20.8 pixels diameter. So checkbox 23.

Orbit Structure





Visit

Proposal 17470, STIS-FUVAURORA-PJ58a (23), failed Wed Dec 31 16:02:10 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%; BETWEEN 01-FEB-2024:06:00:00 AND 01-FEB-2024:07:00:00

Comments: This visit is to be scheduled at close in time as possible to the flyby at Io by Juno with clostest approach on 2024-02-03 (17:48 UTC Juno time)

Diagnostics

(STIS-FUVAURORA-PJ58a (23)) Warning (Orbit Planner): GS ACQ SCENARIO REQUESTED INCONSISTENT WITH VISIT GYRO MODE

(IO1 ACQ (23.001) special requirements) Warning (Form): The specified GS Acq Scenario is not in the current list of valid scenarios.

(IO1 (23.002)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(IO2 (23.003)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(IO2 (23.004)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(STIS-FUVAURORA-PJ58a (23)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(21)	IO-AURORA-PJ58	STD=JUPITER	STD=IO		NOT OCC OF IO-AURORA-PJ58 BY JUPITER FROM EARTH, SEP OF IO-AURORA-PJ58 EUROPA FROM EARTH GT 10", SEP OF IO-AURORA-PJ58 GANYMEDE FROM EARTH GT 10", SEP OF IO-AURORA-PJ58 CALLISTO FROM EARTH GT 10"	EARTH

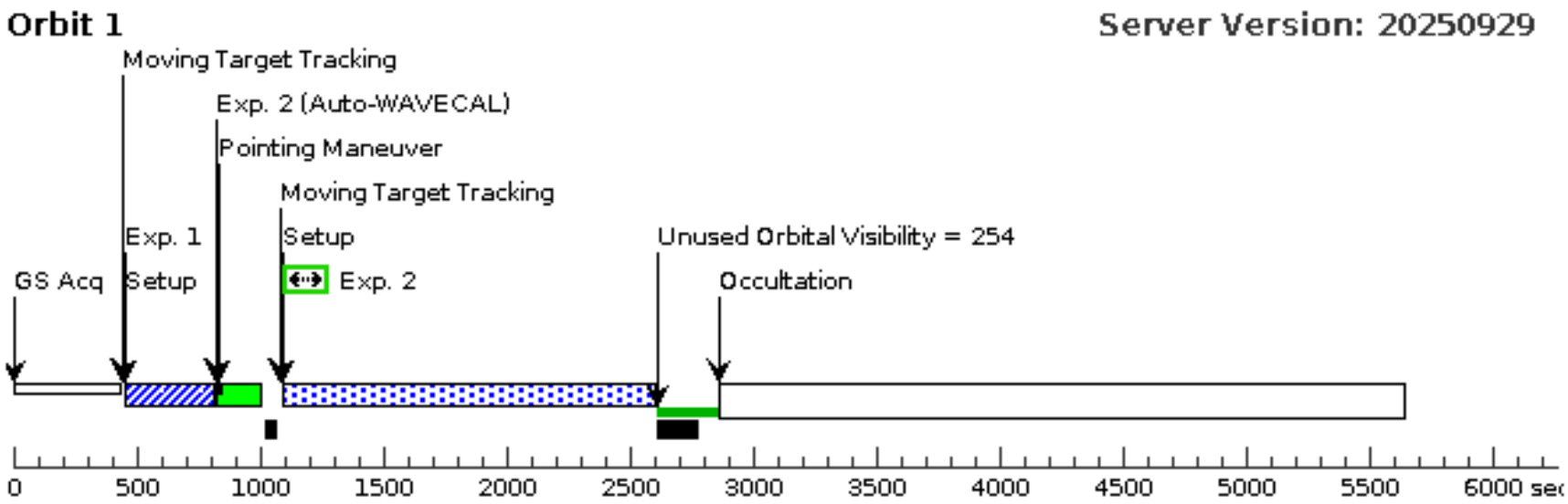
Comments: Description=Io aurora STIS G140L 52x2 during Juno PJ58
Extended=YES

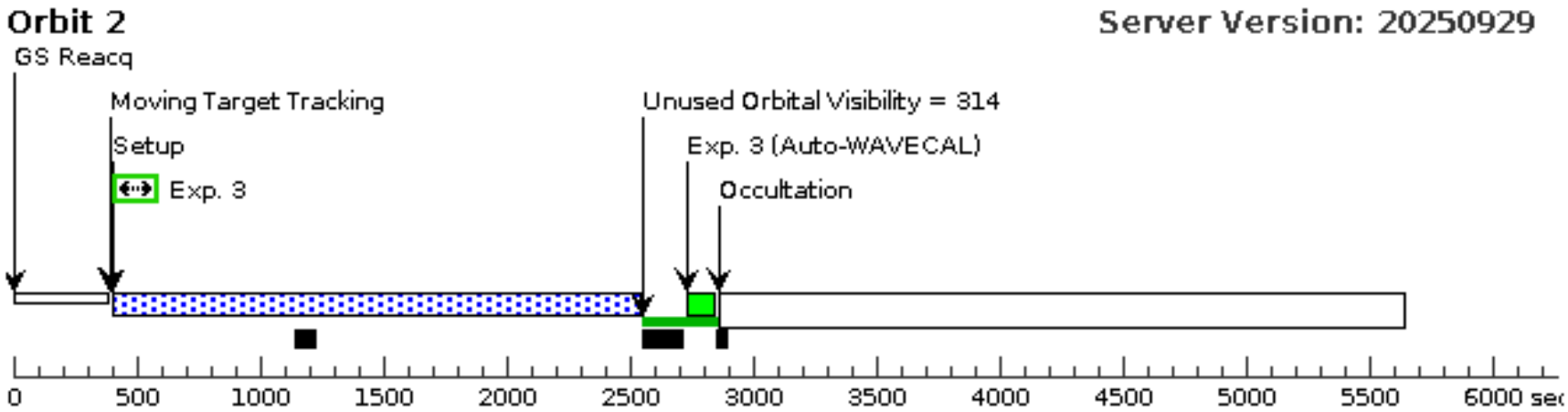
Exposures

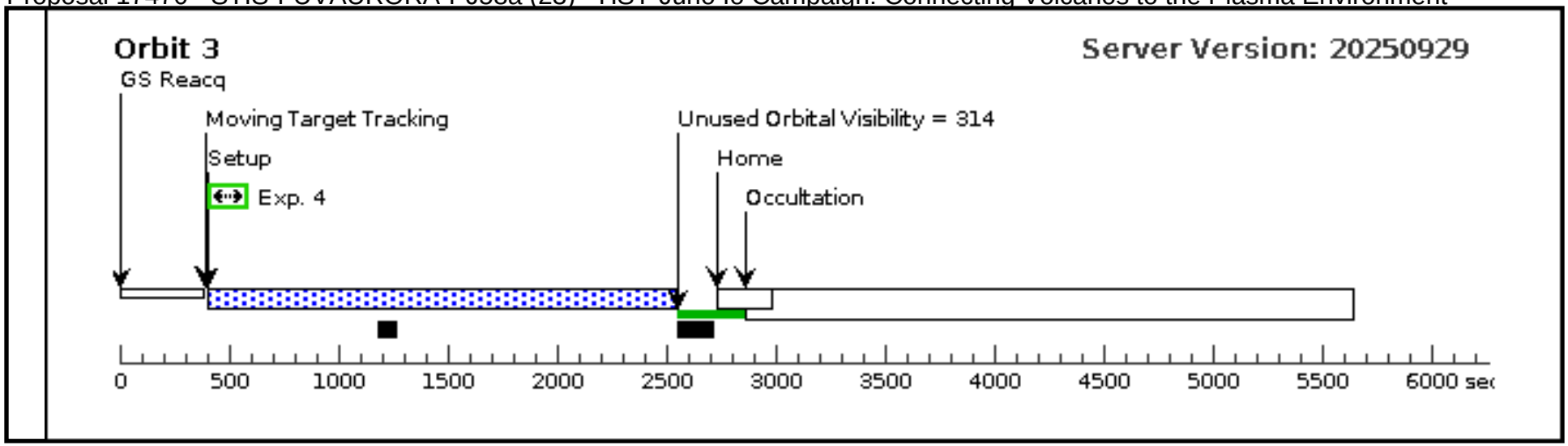
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	IO1 ACQ	(21) IO-AURORA-PJ58	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=21; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER	GS ACQ SCENARIO BASE1BR		0.1 Secs (0.1 Secs)	
								[==>]	***[1]***
2	IO1	(21) IO-AURORA-PJ58	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		1400 Secs (1453 Secs)	
								[==>1453.0 Secs]	***[1]***
3	IO2	(21) IO-AURORA-PJ58	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		2200 Secs (2124 Secs)	
								[==>2124.0 Secs]	***[2]***
4	IO2	(21) IO-AURORA-PJ58	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		2200 Secs (2084 Secs)	
								[==>2084.0 Secs]	***[3]***

Comments: At the time of PJ57 (2024-02-03), Io's diameter is 1.005 arcesc. Thus the checkbox is set to 1.005/0.05 = 21 pixels here.

Orbit Structure






Orbit 3
Server Version: 20250929
GS Reacq
Moving Target Tracking
Setup
Exp. 4
Unused Orbital Visibility = 314
Home
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17470, STIS-FUVAURORA-PJ66c (92), completed Wed Dec 31 16:02:10 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%; BETWEEN 05-OCT-2024:04:18:00 AND 05-OCT-2024:05:18:00

Comments: HOPR repeat of visit 23

This visit is to be scheduled at close in time as possible to the flyby at Io by Juno with clostest approach on 2024-10-22

Diagnostics

(IO1 (92.002)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(IO2 (92.003)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(IO2 (92.004)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(STIS-FUVAURORA-PJ66c (92)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(21)	IO-AURORA-PJ58	STD=JUPITER	STD=IO		NOT OCC OF IO-AURORA-PJ58 BY JUPITER FROM EARTH, SEP OF IO-AURORA-PJ58 EUROPA FROM EARTH GT 10", SEP OF IO-AURORA-PJ58 GANYMEDE FROM EARTH GT 10", SEP OF IO-AURORA-PJ58 CALLISTO FROM EARTH GT 10"	EARTH

Comments: Description=Io aurora STIS G140L 52x2 during Juno PJ58
Extended=YES

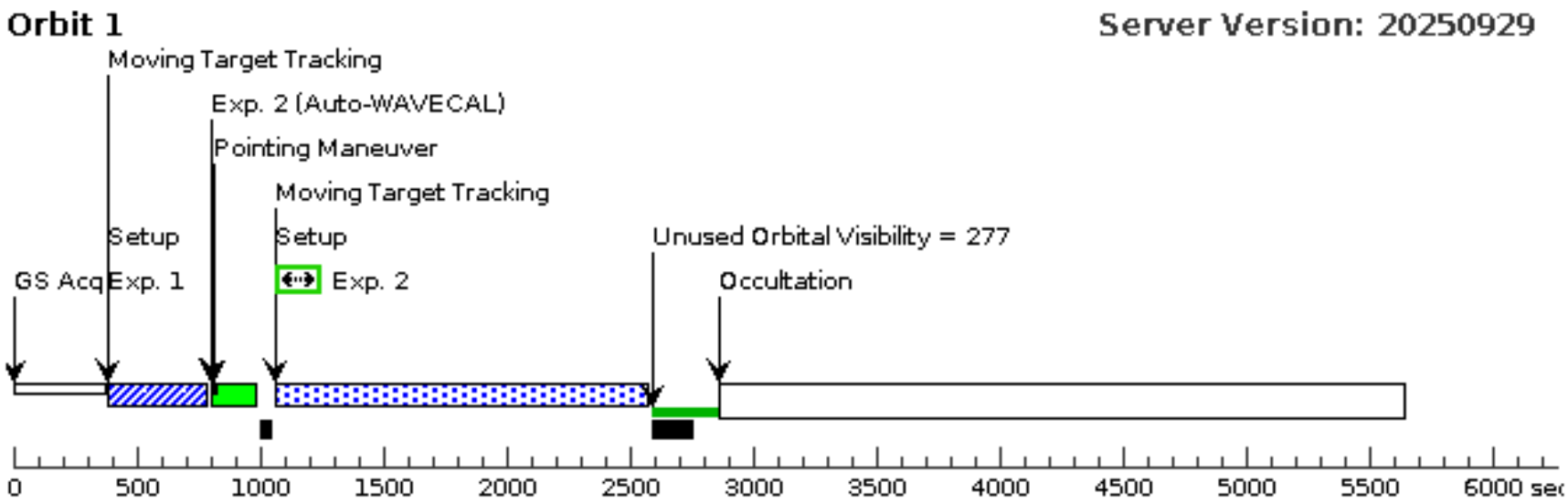
Exposures

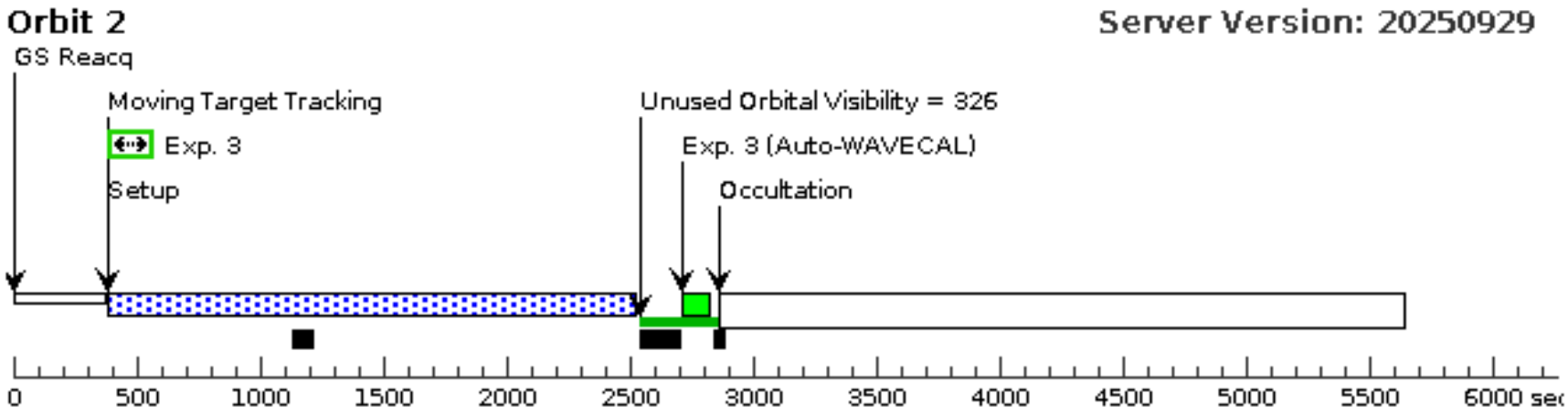
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	IO1 ACQ	(21) IO-AURORA-PJ58	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=25; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER			0.1 Secs (0.1 Secs) *[==>]*	***[1]***
2	IO1	(21) IO-AURORA-PJ58	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		1400 Secs (1453 Secs) *[==>1453.0 Secs]*	***[1]***
3	IO2	(21) IO-AURORA-PJ58	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		2200 Secs (2124 Secs) *[==>2124.0 Secs]*	***[2]***
4	IO2	(21) IO-AURORA-PJ58	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		2200 Secs (2084 Secs) *[==>2084.0 Secs]*	***[3]***

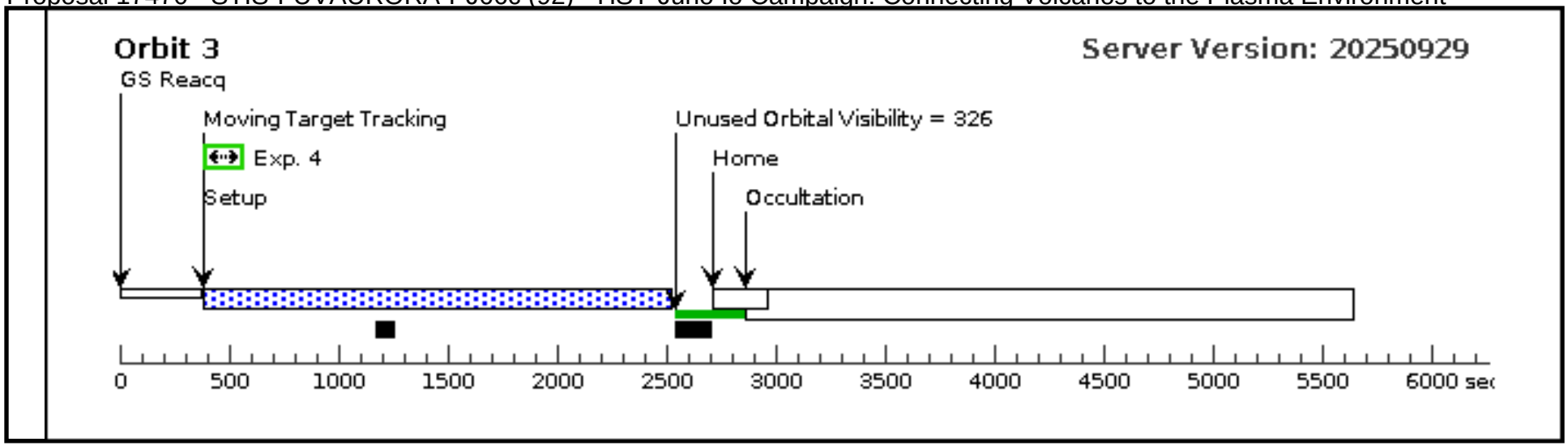
Comments: At the time of PJ57 (2024-02-03), Io's diameter is 1.005 arcesc. Thus the checkbox is set to 1.005/0.05 = 21 pixels here.

Before Sept. 21 Io checkbox 21. Before Oct. 21 Io checkbox 23. After, 25.

Orbit Structure






Orbit 3
Server Version: 20250929
GS Reacq
Moving Target Tracking
Exp. 4
Setup
Unused Orbital Visibility = 326
Home
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17470, STIS-FUVAURORA-PJ58b (24), completed Wed Dec 31 16:02:10 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%; BETWEEN 01-FEB-2024:10:00:00 AND 04-FEB-2024:00:00:00

Comments: This visit is to be scheduled at close in time as possible to the flyby at Io by Juno with clostest approach on 2024-02-03 (17:48 UTC Juno time)

Diagnostics

(STIS-FUVAURORA-PJ58b (24)) Warning (Orbit Planner): GS ACQ SCENARIO REQUESTED INCONSISTENT WITH VISIT GYRO MODE

(IO1 ACQ (24.001) special requirements) Warning (Form): The specified GS Acq Scenario is not in the current list of valid scenarios.

(IO1 (24.002)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(IO2 (24.003)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(IO2 (24.004)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(STIS-FUVAURORA-PJ58b (24)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(21)	IO-AURORA-PJ58	STD=JUPITER	STD=IO		NOT OCC OF IO-AURORA-PJ58 BY JUPITER FROM EARTH, SEP OF IO-AURORA-PJ58 EUROPA FROM EARTH GT 10", SEP OF IO-AURORA-PJ58 GANYMEDE FROM EARTH GT 10", SEP OF IO-AURORA-PJ58 CALLISTO FROM EARTH GT 10"	EARTH

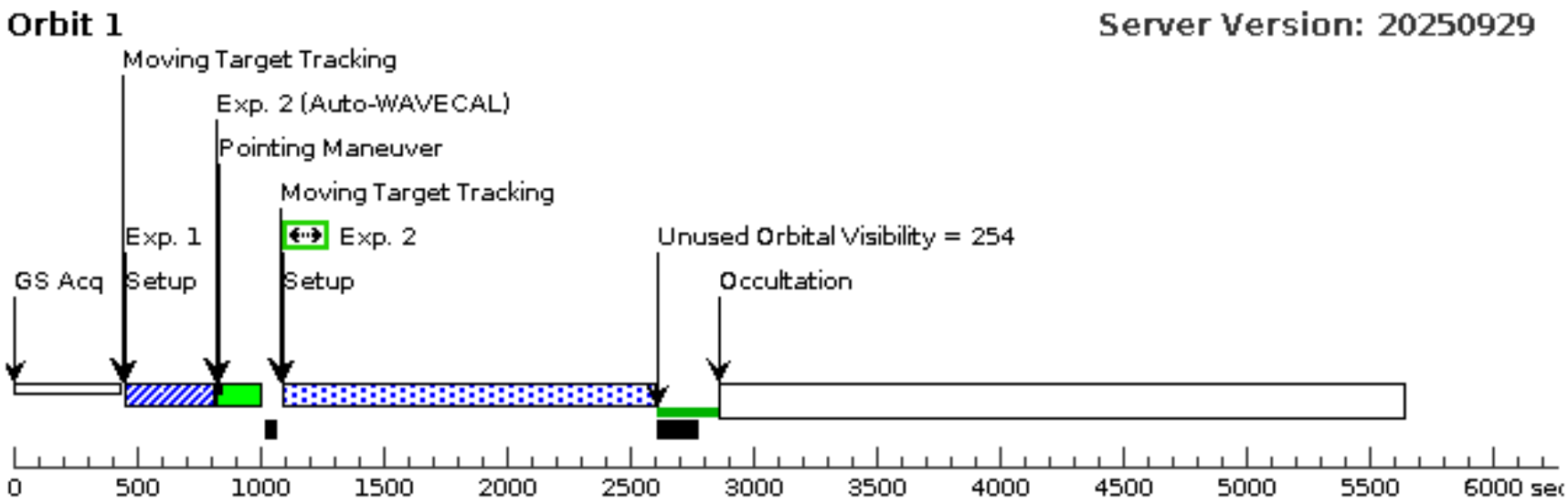
Comments: Description=Io aurora STIS G140L 52x2 during Juno PJ58
Extended=YES

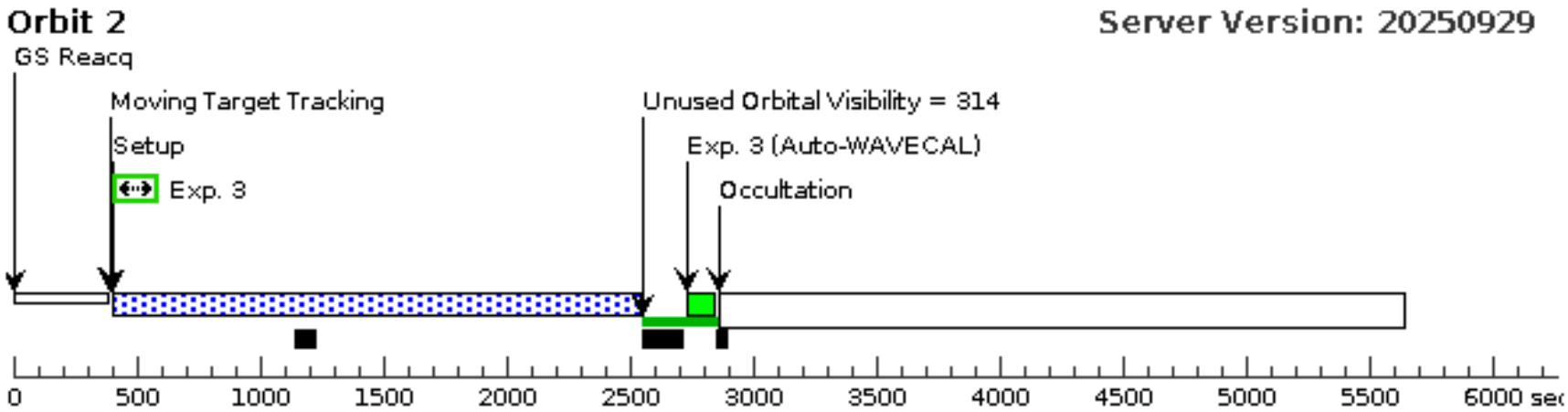
Exposures

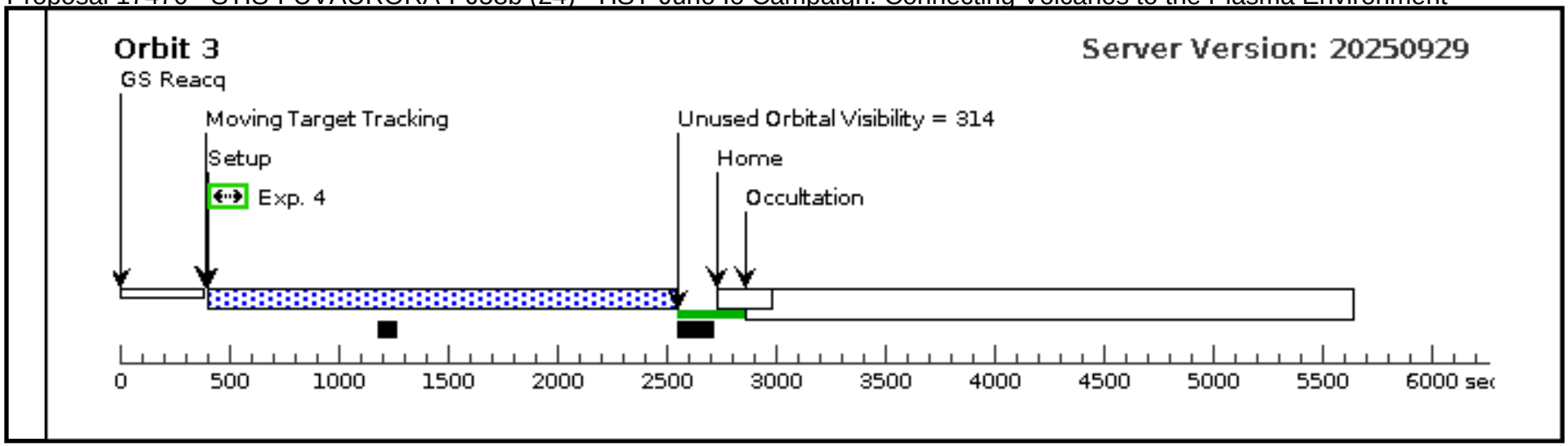
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	IO1 ACQ	(21) IO-AURORA-PJ58	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=21; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER	GS ACQ SCENARIO BASE1BR		0.1 Secs (0.1 Secs)	
								[==>]	***[1]***
2	IO1	(21) IO-AURORA-PJ58	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		1400 Secs (1453 Secs)	
								[==>1453.0 Secs]	***[1]***
3	IO2	(21) IO-AURORA-PJ58	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		2200 Secs (2124 Secs)	
								[==>2124.0 Secs]	***[2]***
4	IO2	(21) IO-AURORA-PJ58	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		2200 Secs (2084 Secs)	
								[==>2084.0 Secs]	***[3]***

Comments: At the time of PJ57 (2024-02-03), Io's diameter is 1.005 arcesc. Thus the checkbox is set to 1.005/0.05 = 21 pixels here.

Orbit Structure






Orbit 3
Server Version: 20250929
GS Reacq
Moving Target Tracking
Setup
Exp. 4
Unused Orbital Visibility = 314
Home
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17470, STIS-FUVAURORA-PJ59a (25), failed Wed Dec 31 16:02:10 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%; BETWEEN 04-MAR-2024:00:00:00 AND 10-MAR-2024:00:00:00

Comments: This visit is to be scheduled at close in time as possible to the flyby at Io by Juno with clostest approach on 2024-03-07

Diagnostics

(STIS-FUVAURORA-PJ59a (25)) Warning (Orbit Planner): GS ACQ SCENARIO REQUESTED INCONSISTENT WITH VISIT GYRO MODE

(IO1 ACQ (25.001) special requirements) Warning (Form): The specified GS Acq Scenario is not in the current list of valid scenarios.

(IO1 (25.002)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(IO2 (25.003)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(STIS-FUVAURORA-PJ59a (25)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(22)	IO-AURORA-PJ59	STD=JUPITER	STD=IO		NOT OCC OF IO-AURORA-PJ59 BY JUPITER FROM EARTH, SEP OF IO-AURORA-PJ59 EUROPA FROM EARTH GT 10", SEP OF IO-AURORA-PJ59 GANYMEDE FROM EARTH GT 10", SEP OF IO-AURORA-PJ59 CALLISTO FROM EARTH GT 10"	EARTH

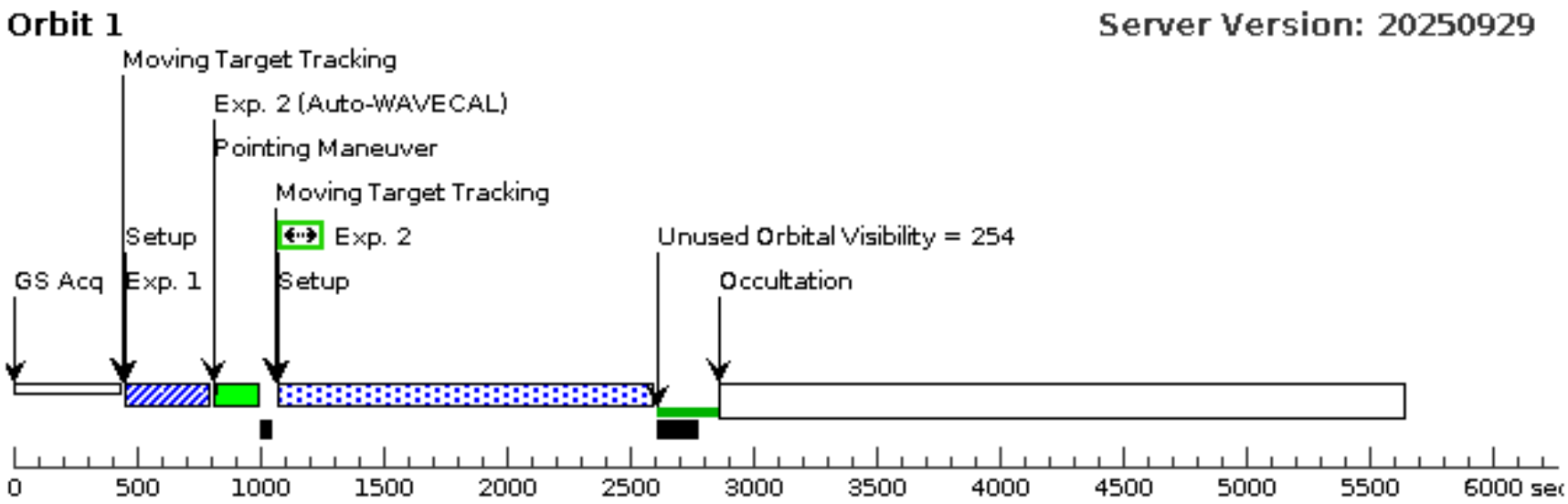
Comments: Description=Io aurora STIS G140L 52x2 during Juno PJ59
Extended=YES

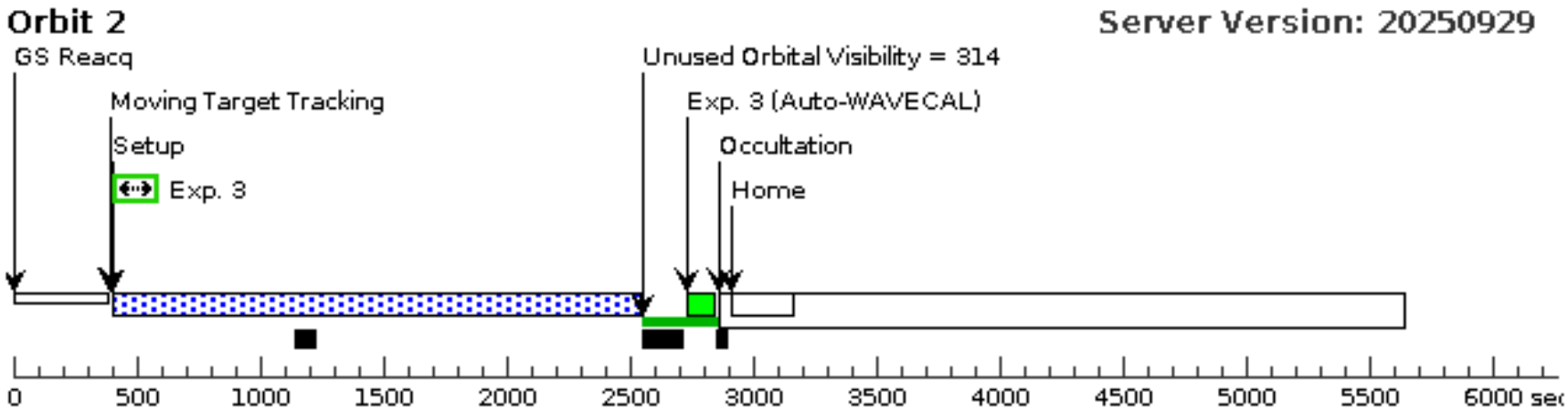
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	IO1 ACQ	(22) IO-AURORA-PJ59	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=19; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER	GS ACQ SCENARIO BASE1BR		0.1 Secs (0.1 Secs) *[==>]*	*[1]*
2	IO1	(22) IO-AURORA-PJ59	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		1400 Secs (1469 Secs) *[==>1469.0 Secs]*	*[1]*
3	IO2	(22) IO-AURORA-PJ59	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		2200 Secs (2124 Secs) *[==>2124.0 Secs]*	*[2]*

Comments: At the time of PJ59 (2024-03-07), Io's diameter is 0.91 arcesc. Thus the checkbox is set to 0.91/0.05 <= 19 pixels here.

Orbit Structure





Visit

Proposal 17470, STIS-FUVAURORA-PJ66d (93), completed Wed Dec 31 16:02:10 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%; BETWEEN 21-OCT-2024:00:00:00 AND 24-OCT-2024:00:00:00

Comments: HOPR repeat of second orbit from visit 25

This visit is to be scheduled at close in time as possible to the flyby at Io by Juno with clostest approach on 2024-10-22

Diagnostics

(IO1 (93.002)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(IO2 (93.003)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(STIS-FUVAURORA-PJ66d (93)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

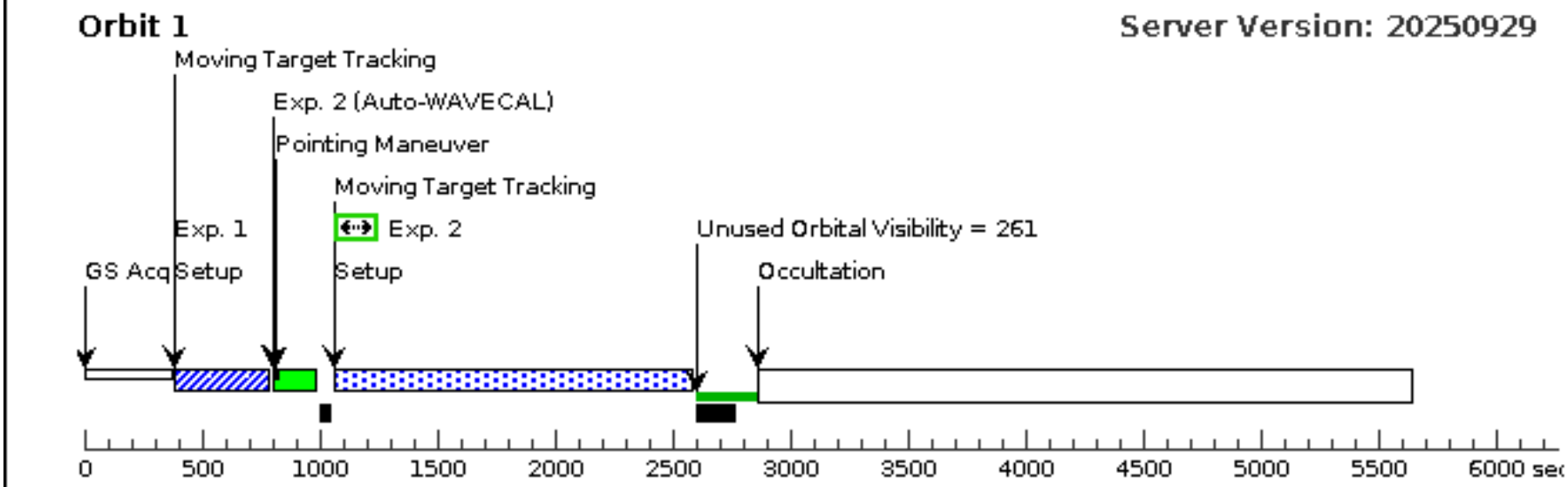
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(22)	IO-AURORA-PJ59	STD=JUPITER	STD=IO		NOT OCC OF IO-AURORA-PJ59 BY JUPITER FROM EARTH, SEP OF IO-AURORA-PJ59 EUROPA FROM EARTH GT 10", SEP OF IO-AURORA-PJ59 GANYMEDE FROM EARTH GT 10", SEP OF IO-AURORA-PJ59 CALLISTO FROM EARTH GT 10"	EARTH

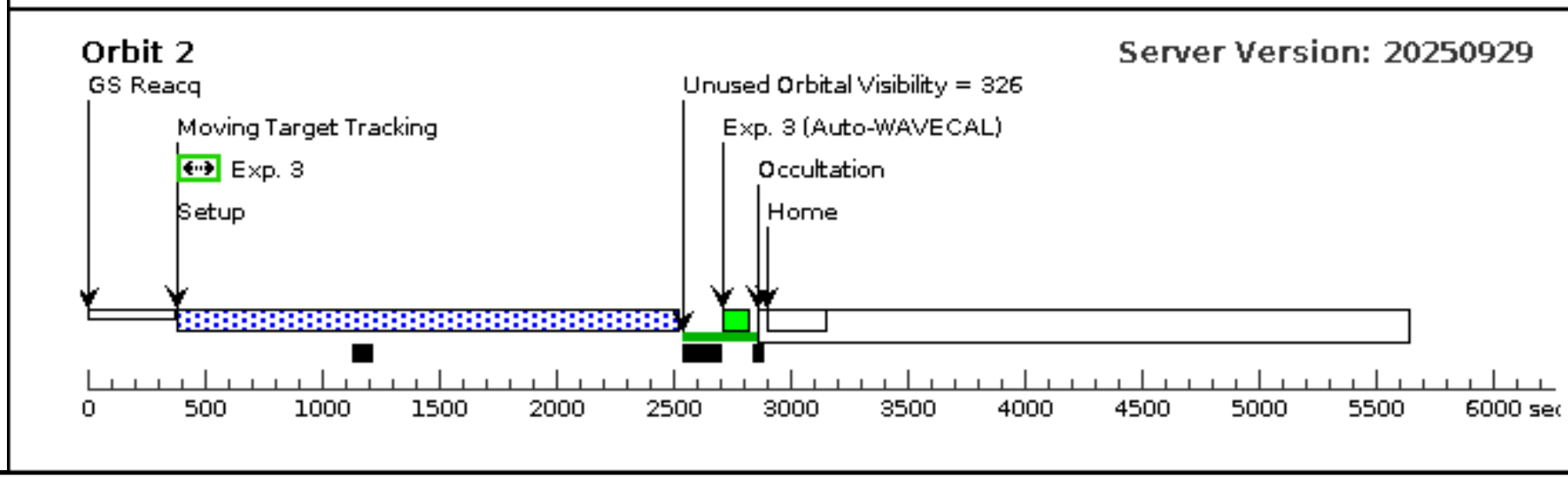
Comments: Description=Io aurora STIS G140L 52x2 during Juno PJ59
Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	IO1 ACQ	(22) IO-AURORA-PJ59	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=25; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER			0.1 Secs (0.1 Secs) *[==>]*	*[1]*
								Comments: At the time of PJ59 (2024-03-07), Io's diameter is 0.91 arcesc. Thus the checkbox is set to 0.91/0.05 <= 19 pixels here.	
2	IO1	(22) IO-AURORA-PJ59	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		1400 Secs (1469 Secs) *[==>1469.0 Secs]*	*[1]*
3	IO2	(22) IO-AURORA-PJ59	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		2200 Secs (2124 Secs) *[==>2124.0 Secs]*	*[2]*

Orbit Structure





Visit

Proposal 17470, STIS-FUVAURORA-PJ59b (26), completed Wed Dec 31 16:02:10 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%; BETWEEN 04-MAR-2024:00:00:00 AND 10-MAR-2024:00:00:00

Comments: This visit is to be scheduled at close in time as possible to the flyby at Io by Juno with clostest approach on 2024-03-07

Diagnostics

(STIS-FUVAURORA-PJ59b (26)) Warning (Orbit Planner): GS ACQ SCENARIO REQUESTED INCONSISTENT WITH VISIT GYRO MODE

(IO1 ACQ (26.001) special requirements) Warning (Form): The specified GS Acq Scenario is not in the current list of valid scenarios.

(IO1 (26.002)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(IO2 (26.003)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(STIS-FUVAURORA-PJ59b (26)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(22)	IO-AURORA-PJ59	STD=JUPITER	STD=IO		NOT OCC OF IO-AURORA-PJ59 BY JUPITER FROM EARTH, SEP OF IO-AURORA-PJ59 EUROPA FROM EARTH GT 10", SEP OF IO-AURORA-PJ59 GANYMEDE FROM EARTH GT 10", SEP OF IO-AURORA-PJ59 CALLISTO FROM EARTH GT 10"	EARTH

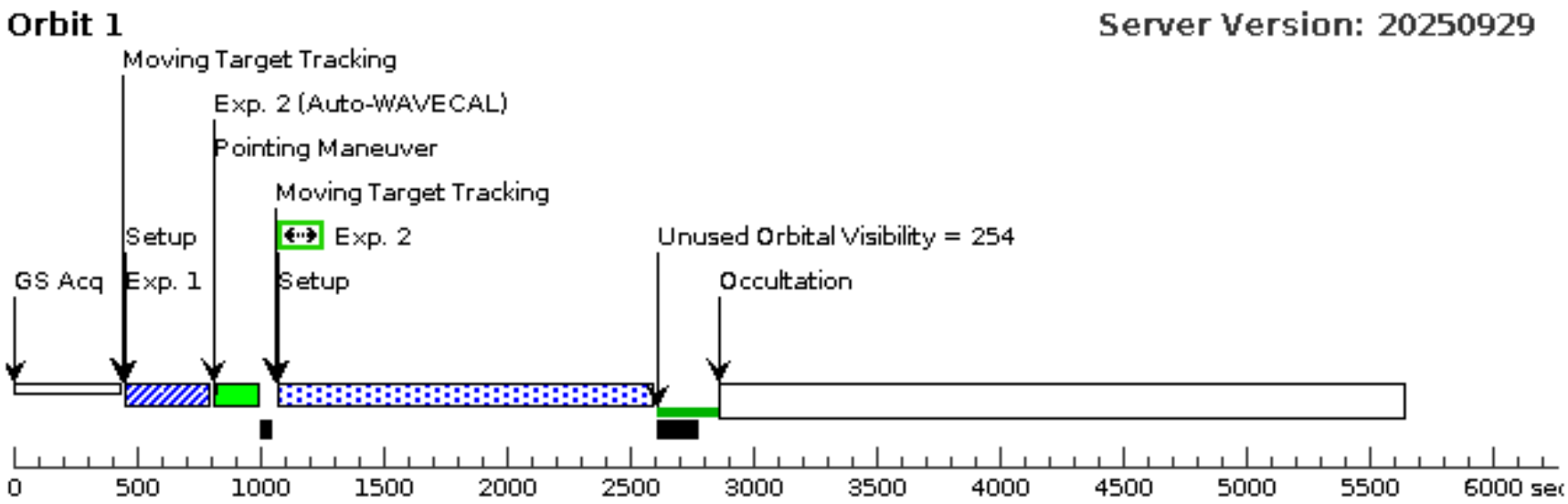
Comments: Description=Io aurora STIS G140L 52x2 during Juno PJ59
Extended=YES

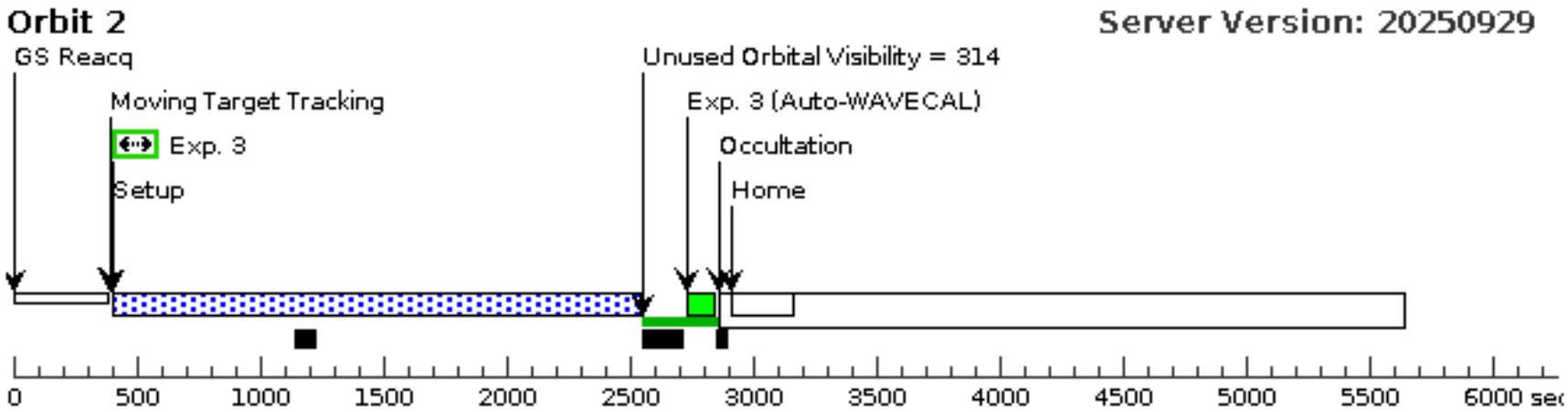
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	IO1 ACQ	(22) IO-AURORA-PJ59	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=19; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER	GS ACQ SCENARIO BASE1BR		0.1 Secs (0.1 Secs) *[==>]*	*[1]*
2	IO1	(22) IO-AURORA-PJ59	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		1400 Secs (1469 Secs) *[==>1469.0 Secs]*	*[1]*
3	IO2	(22) IO-AURORA-PJ59	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		2200 Secs (2124 Secs) *[==>2124.0 Secs]*	*[2]*

Comments: At the time of PJ59 (2024-03-07), Io's diameter is 0.91 arcesc. Thus the checkbox is set to 0.91/0.05 <= 19 pixels here.

Orbit Structure





Visit

Proposal 17470, STIS-FUVAURORA-UVS2 (27), implementation Wed Dec 31 16:02:10 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%

Comments: This visit is to be scheduled when Io is emerging from eclipse, and as close in time as possible to PJ66 (2024-10-22); I'll rethink this with Lorenz. If no HST availability post opposition on Dec. 7 we might need to push this till next availability window or rethink the egress plan and do an ingress instead.

No longer calling this an EGRESS attempt. Given gyro constraints.

Diagnostics

(IO1 (27.002)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(IO2 (27.003)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(STIS-FUVAURORA-UVS2 (27)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

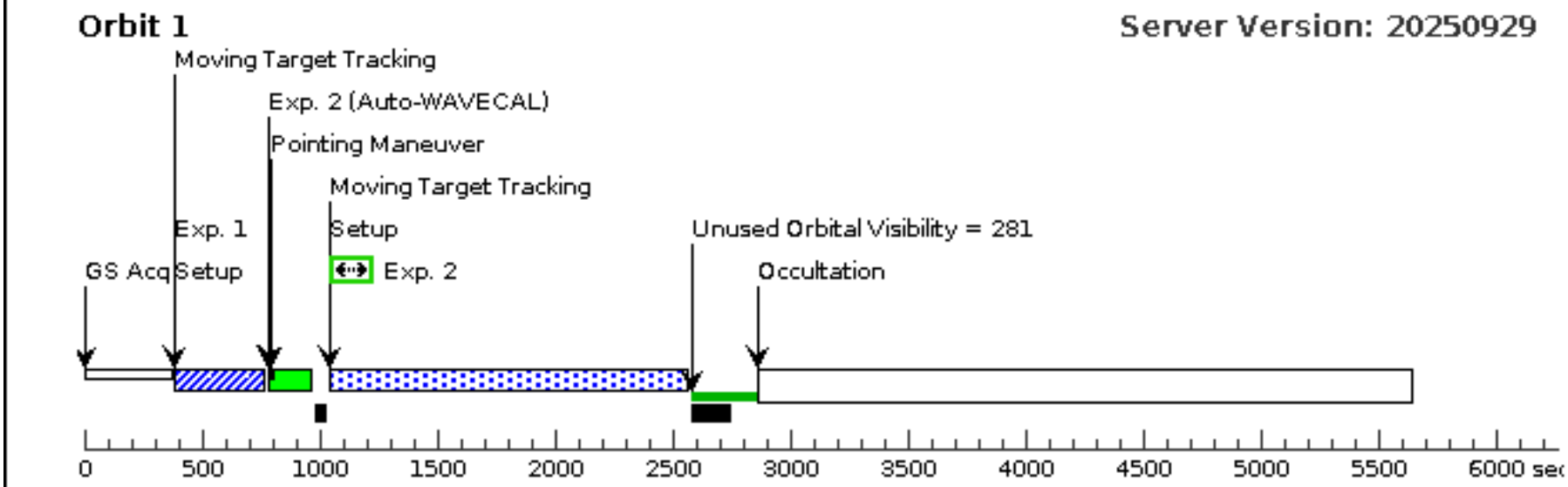
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(27)	IO-AURORA-UVS2-ECLIPSE	STD=JUPITER	STD=IO		NOT OCC OF IO-AURORA-UVS2-ECLIPSE BY JUPITER FROM EARTH, OLG OF IO-AURORA-UVS2-ECLIPSE FROM EARTH BETWEEN 330 360	EARTH

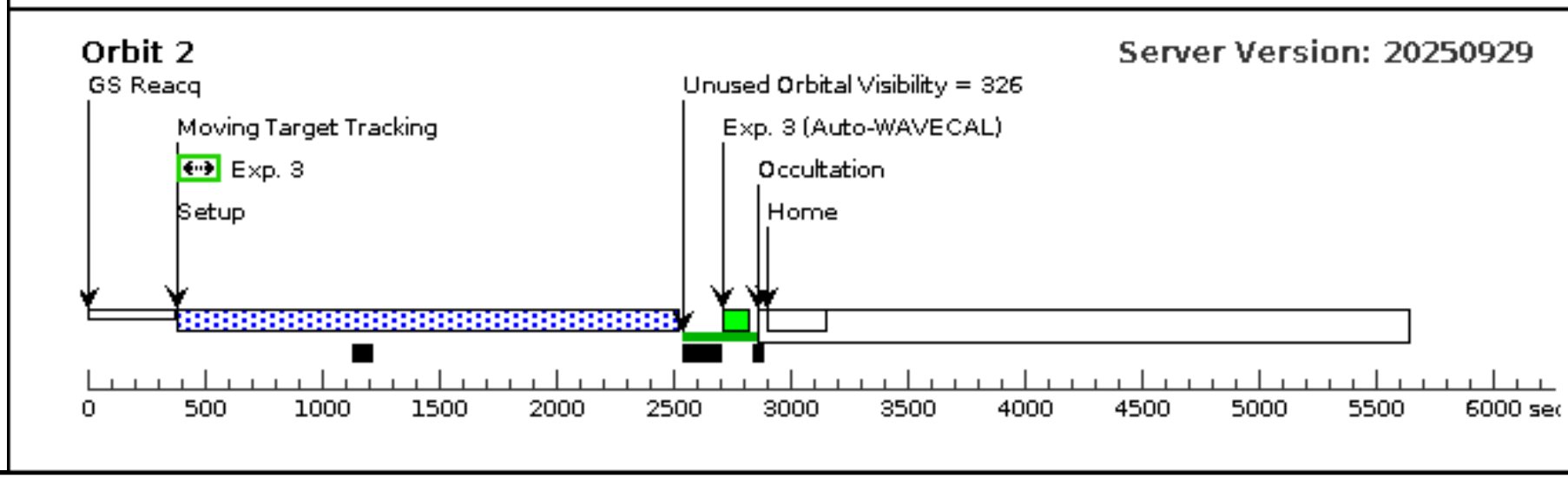
Comments: Originally the aim was to observe Io emerging from eclipse.
Due to the restricted field of regard for HST, egress can not be observed in cycle 32 and we therefore changed the constraints to ingress / eclipse
Description=Io aurora STIS G140L 52x2 during Juno-UVS Coordinated Obs. 2
Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	IO1 ACQ	(27) IO-AURORA-UVS2-ECLIPSE	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=23; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER			0.1 Secs (0.1 Secs) *[==>]*	*[1]*
								Comments: At the time of PJ59 (2024-03-07), Io's diameter is 0.91 arcesc. Thus the checkbox is set to 0.91/0.05 <= 19 pixels here. *At the time of UVS2 (2024-09-30), Io's diameter is 1.077 arcesc. Thus the checkbox is set to 1.077/0.05 = 21.5 pixels < 23 here.*	
2	IO1	(27) IO-AURORA-UVS2-ECLIPSE	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		1400 Secs (1469 Secs) *[==>1469.0 Secs]*	*[1]*
3	IO2	(27) IO-AURORA-UVS2-ECLIPSE	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		2200 Secs (2124 Secs) *[==>2124.0 Secs]*	*[2]*

Orbit Structure





Visit

Proposal 17470, STIS-FUVAURORA-PJ64a (28), completed Wed Dec 31 16:02:10 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%; BETWEEN 17-AUG-2024:00:00:00 AND 20-AUG-2024:00:00:00

Comments: This visit is to be scheduled at close in time as possible to the flyby at Io by Juno with clostest approach on 2024-08-18

Diagnostics

(IO1 (28.002)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(IO2 (28.003)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(STIS-FUVAURORA-PJ64a (28)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

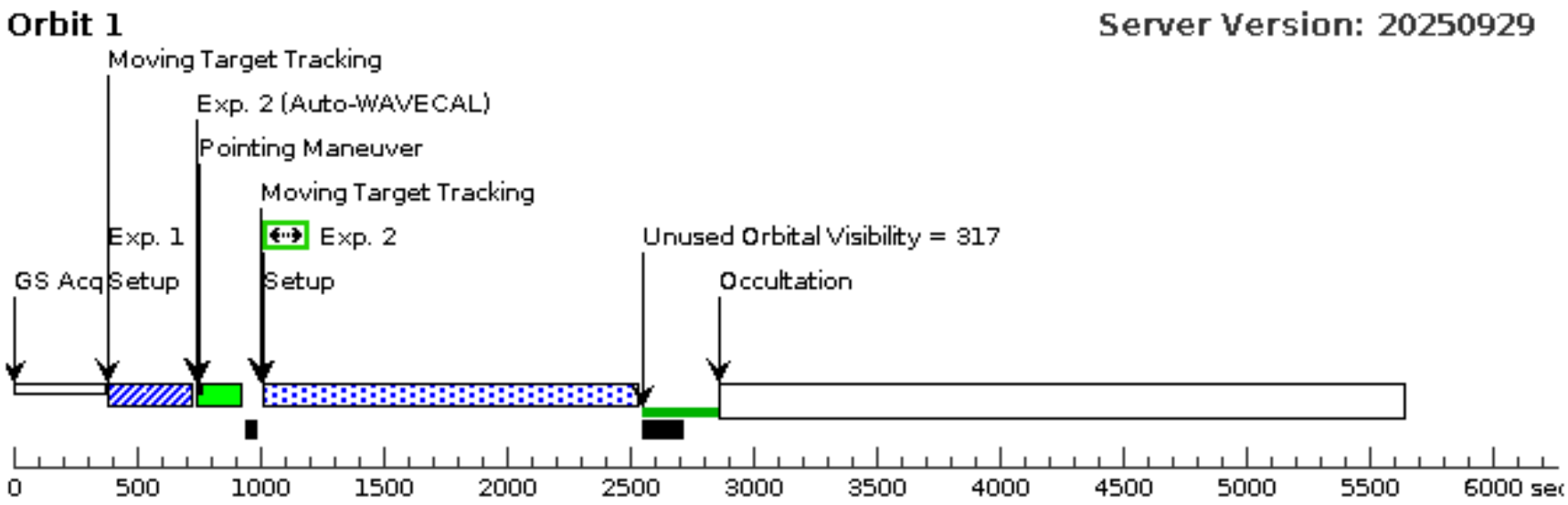
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(23)	IO-AURORA-PJ64	STD=JUPITER	STD=IO		NOT OCC OF IO-AURORA-PJ64 BY JUPITER FROM EARTH, SEP OF IO-AURORA-PJ64 EUROPA FROM EARTH GT 10", SEP OF IO-AURORA-PJ64 GANYMEDE FROM EARTH GT 10", SEP OF IO-AURORA-PJ64 CALLISTO FROM EARTH GT 10"	EARTH

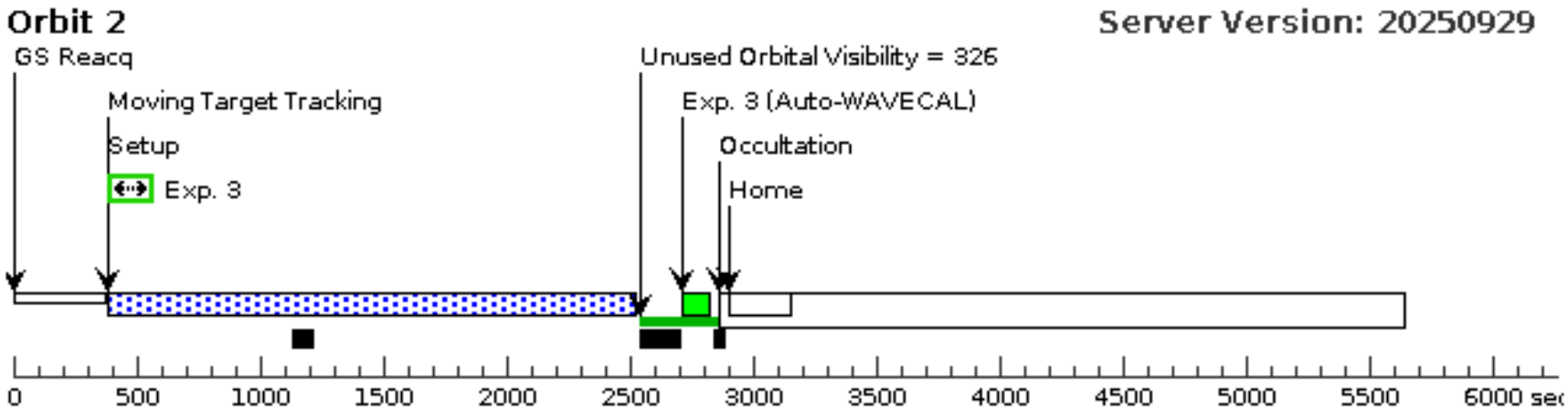
Comments: Description=Io aurora STIS G140L 52x2 during Juno PJ64
Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	IO1 ACQ	(23) IO-AURORA-PJ64	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=19; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER			0.1 Secs (0.1 Secs) *[==>]*	*[1]*
Comments: At the time of PJ57 (2024-08-18), Io's diameter is 0.93 arcesc. Thus the checkbox is set to 0.93/0.05 <= 19 pixels here.									
2	IO1	(23) IO-AURORA-PJ64	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		1400 Secs (1469 Secs) *[==>1469.0 Secs]*	*[1]*
3	IO2	(23) IO-AURORA-PJ64	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		2200 Secs (2124 Secs) *[==>2124.0 Secs]*	*[2]*

Orbit Structure





Visit

Proposal 17470, STIS-FUVAURORA-PJ64b (29), completed Wed Dec 31 16:02:10 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%; BETWEEN 17-AUG-2024:00:00:00 AND 20-AUG-2024:00:00:00

Comments: This visit is to be scheduled at close in time as possible to the flyby at Io by Juno with clostest approach on 2024-08-18

Diagnostics

(IO1 (29.002)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(IO2 (29.003)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(STIS-FUVAURORA-PJ64b (29)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

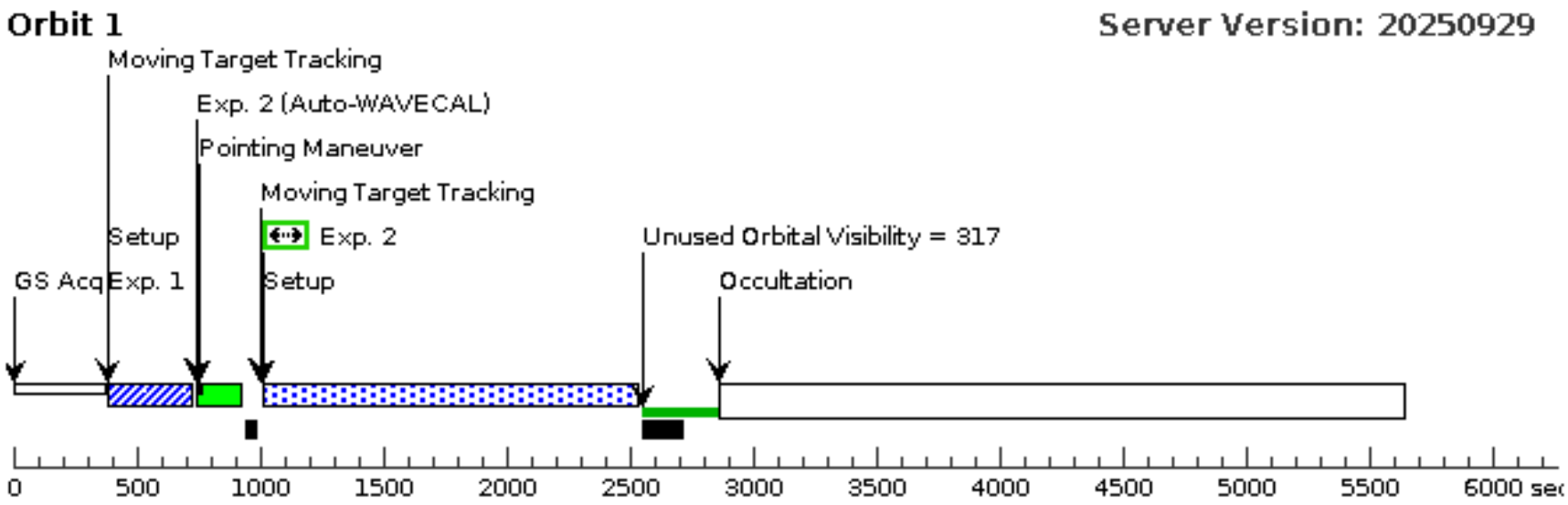
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(23)	IO-AURORA-PJ64	STD=JUPITER	STD=IO		NOT OCC OF IO-AURORA-PJ64 BY JUPITER FROM EARTH, SEP OF IO-AURORA-PJ64 EUROPA FROM EARTH GT 10", SEP OF IO-AURORA-PJ64 GANYMEDE FROM EARTH GT 10", SEP OF IO-AURORA-PJ64 CALLISTO FROM EARTH GT 10"	EARTH

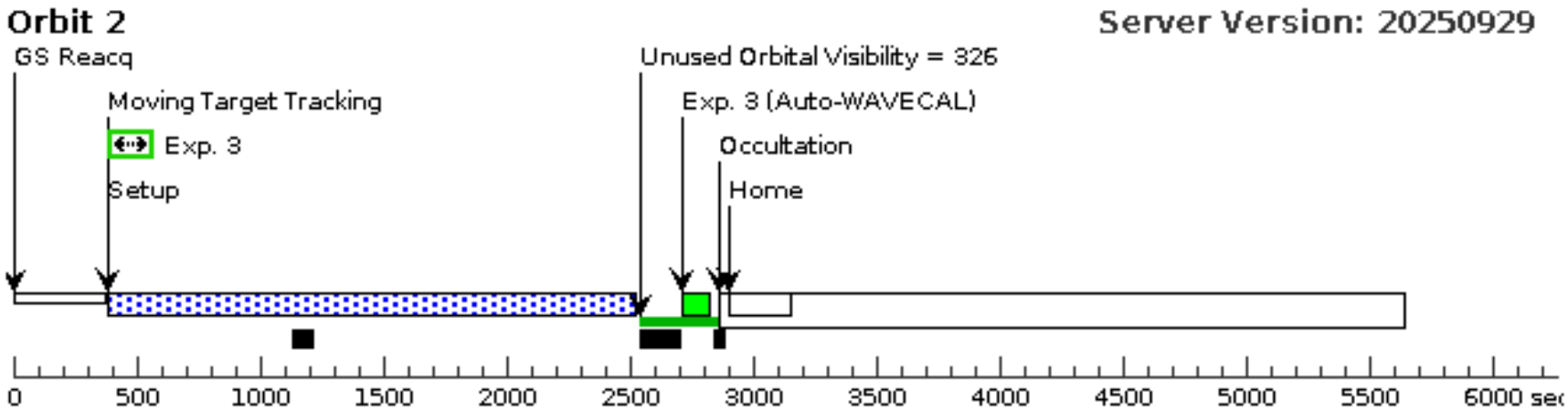
Comments: Description=Io aurora STIS G140L 52x2 during Juno PJ64
Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	IO1 ACQ	(23) IO-AURORA-PJ64	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=19; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER			0.1 Secs (0.1 Secs) *[==>]*	*[1]*
Comments: At the time of PJ57 (2024-08-18), Io's diameter is 0.93 arcesc. Thus the checkbox is set to 0.93/0.05 <= 19 pixels here.									
2	IO1	(23) IO-AURORA-PJ64	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		1400 Secs (1469 Secs) *[==>1469.0 Secs]*	*[1]*
3	IO2	(23) IO-AURORA-PJ64	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		2200 Secs (2124 Secs) *[==>2124.0 Secs]*	*[2]*

Orbit Structure





Visit

Proposal 17470, STIS-FUVAURORA-UVS3 (30), completed Wed Dec 31 16:02:10 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%; BETWEEN 19-SEP-2024:11:15:00 AND 19-SEP-2024:12:10:00

Comments: This visit is to be scheduled at close in time as possible to a time when Juno-UVS observes Io associated with PJ65 starting at 2024-09-20 02:29 and lasting 20-30 minutes.

Diagnostics

(IO1 (30.002)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(IO2 (30.003)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(STIS-FUVAURORA-UVS3 (30)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

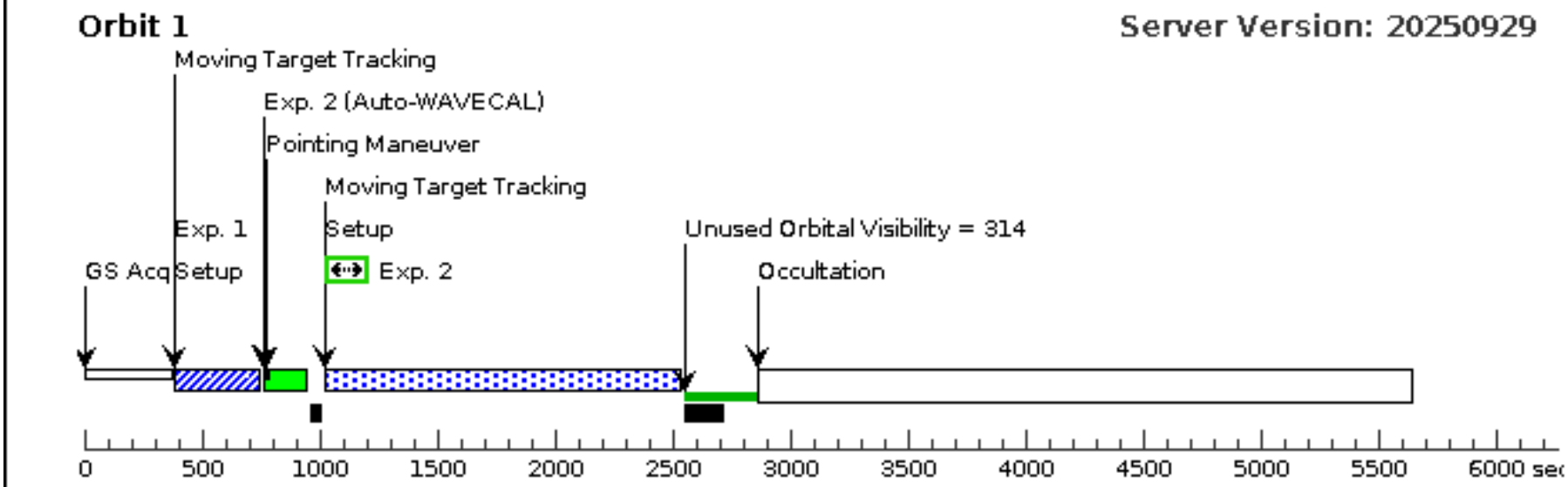
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(30)	IO-AURORA-UVS3	STD=JUPITER	STD=IO		NOT OCC OF IO-AURORA-UVS3 BY JUPITER FROM EARTH, SEP OF IO-AURORA-UVS3 EUROPA FROM EARTH GT 10", SEP OF IO-AURORA-UVS3 GANYMEDE FROM EARTH GT 10", SEP OF IO-AURORA-UVS3 CALLISTO FROM EARTH GT 10"	EARTH

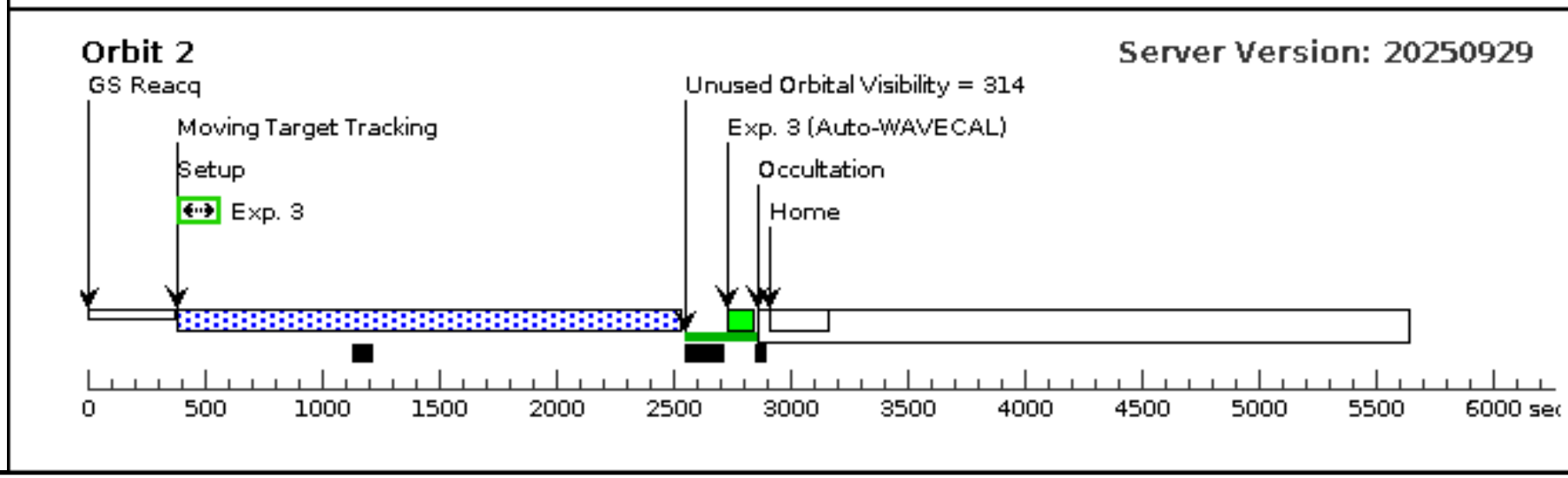
Comments: This orbital perijove away from Io provides improved Juno-UVS datasets, owing to less radiation environment at the time of planned distant observations .
Description=Io aurora STIS G140L 52x2 during Juno-UVS Coordinated Obs. 3
Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	IO1 ACQ	(30) IO-AURORA-UVS3	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=21; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER			0.1 Secs (0.1 Secs) [==>]	[1]
								Comments: At the time of PJ59 (2024-03-07), Io's diameter is 0.91 arcesc. Thus the checkbox is set to 0.91/0.05 <= 19 pixels here. *sep. 19 angular diameter is 1.04 arcsec, with 20.8 pixels.*	
2	IO1	(30) IO-AURORA-UVS3	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		1456 Secs (1456 Secs) [==>]	[1]
3	IO2	(30) IO-AURORA-UVS3	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		2136 Secs (2136 Secs) [==>]	[2]

Orbit Structure





Visit

Proposal 17470, STIS-FUVAURORA-PJ66a (31), completed Wed Dec 31 16:02:10 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%; BETWEEN 21-OCT-2024:00:00:00 AND 24-OCT-2024:00:00:00

Comments: This visit is to be scheduled at close in time as possible to the flyby at Io by Juno with closest approach on 2024-10-22

Diagnostics

(IO1 (31.002)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(IO2 (31.003)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(IO2 (31.004)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(STIS-FUVAURORA-PJ66a (31)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(24)	IO-AURORA-PJ66	STD=JUPITER	STD=IO		NOT OCC OF IO-AURORA-PJ66 BY JUPITER FROM EARTH, SEP OF IO-AURORA-PJ66 EUROPA FROM EARTH GT 10", SEP OF IO-AURORA-PJ66 GANYMEDE FROM EARTH GT 10", SEP OF IO-AURORA-PJ66 CALLISTO FROM EARTH GT 10"	EARTH

Comments: Description=Io aurora STIS G140L 52x2 during Juno PJ65
Extended=YES

Exposures

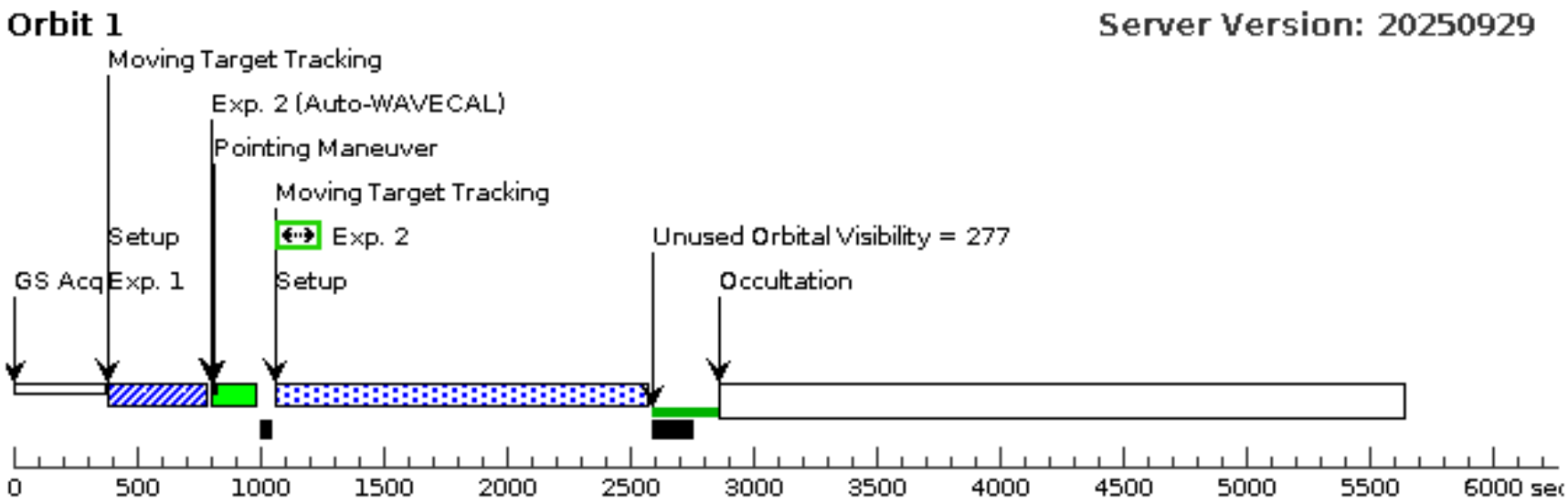
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	IO1 ACQ	(24) IO-AURORA-PJ66	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=25; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER			0.1 Secs (0.1 Secs)	
								[==>]	***[1]***

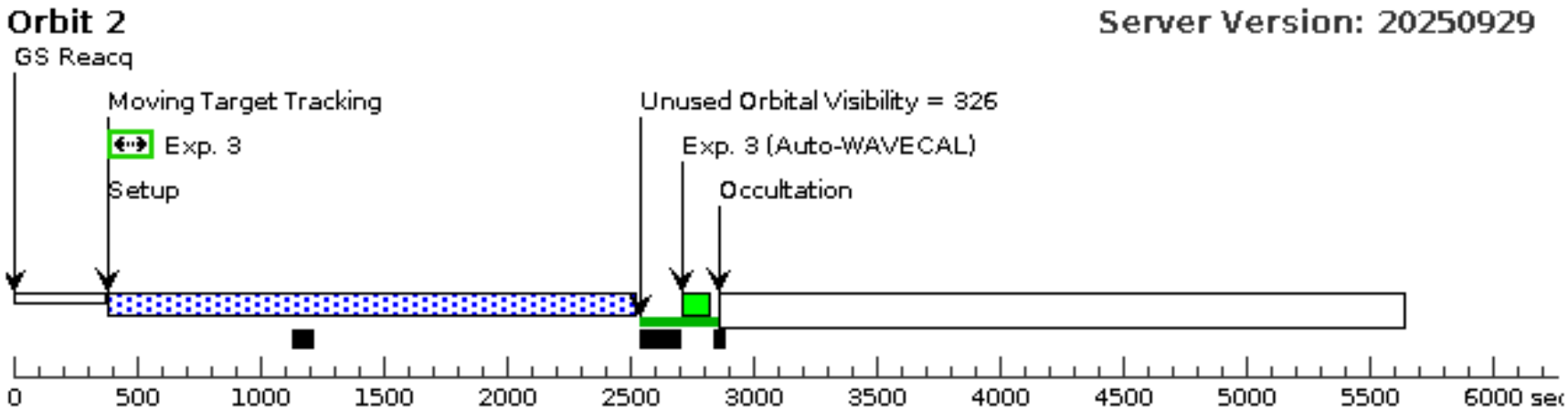
Comments: At the time of PJ57 (2024-08-18), Io's diameter is 1.04 arcesc. Thus the checkbox is set to 1.04/0.05 <= 21 pixels here.

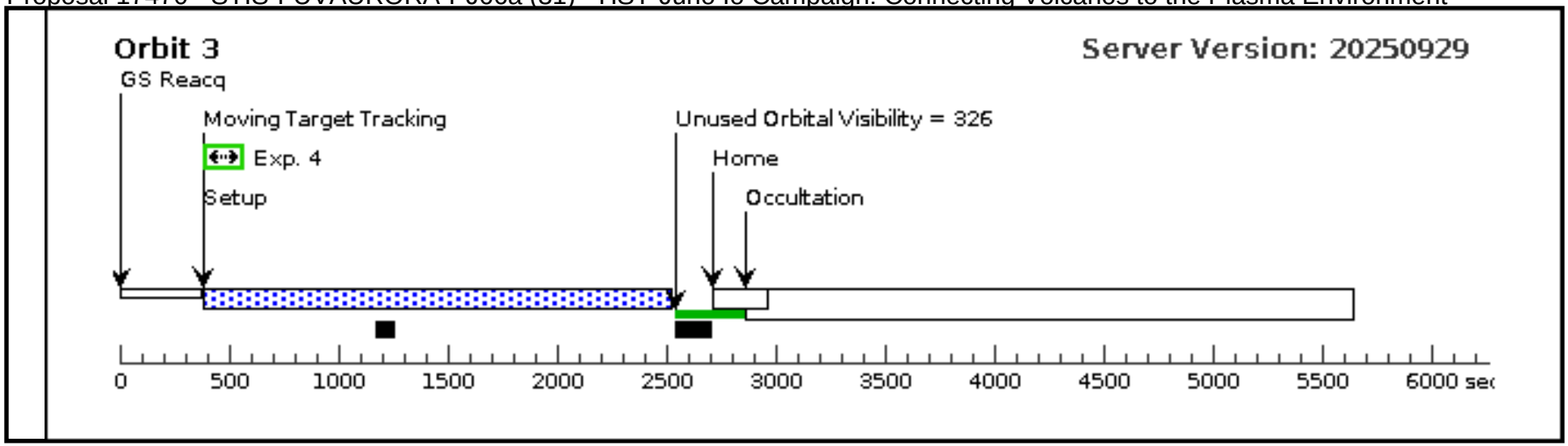
october 24th is 23.1 pixels so use 25

2	IO1	(24) IO-AURORA-PJ66	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		1400 Secs (1453 Secs)	
								[==>1453.0 Secs]	***[1]***
3	IO2	(24) IO-AURORA-PJ66	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		2200 Secs (2124 Secs)	
								[==>2124.0 Secs]	***[2]***
4	IO2	(24) IO-AURORA-PJ66	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		2200 Secs (2084 Secs)	
								[==>2084.0 Secs]	***[3]***

Orbit Structure






Orbit 3
Server Version: 20250929
GS Reacq
Moving Target Tracking
Exp. 4
Setup
Unused Orbital Visibility = 326
Home
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17470, STIS-FUVAURORA-PJ66b (32), completed Wed Dec 31 16:02:10 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%; BETWEEN 21-OCT-2024:08:00:00 AND 24-OCT-2024:22:00:00

Comments: This visit is to be scheduled at close in time as possible to the flyby at Io by Juno with closest approach on 2024-10-22

Diagnostics

(IO1 (32.002)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(IO2 (32.003)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(IO2 (32.004)) Warning (Form): Sensitive exposures should have an ETC run number provided.

(STIS-FUVAURORA-PJ66b (32)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

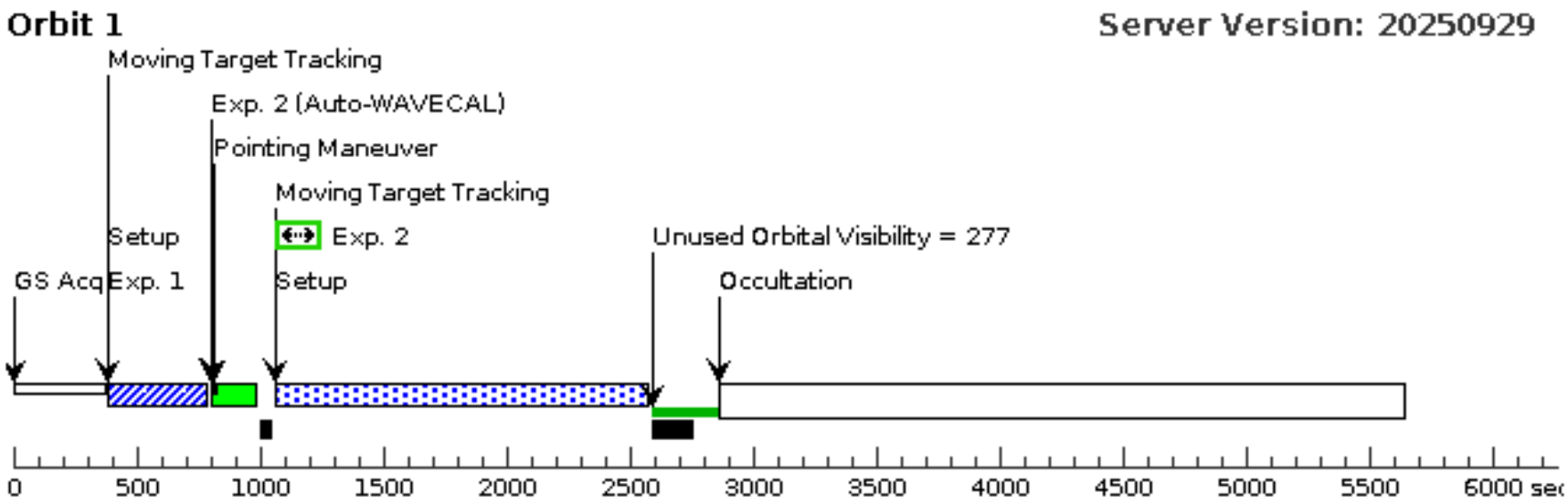
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(24)	IO-AURORA-PJ66	STD=JUPITER	STD=IO		NOT OCC OF IO-AURORA-PJ66 BY JUPITER FROM EARTH, SEP OF IO-AURORA-PJ66 EUROPA FROM EARTH GT 10", SEP OF IO-AURORA-PJ66 GANYMEDE FROM EARTH GT 10", SEP OF IO-AURORA-PJ66 CALLISTO FROM EARTH GT 10"	EARTH

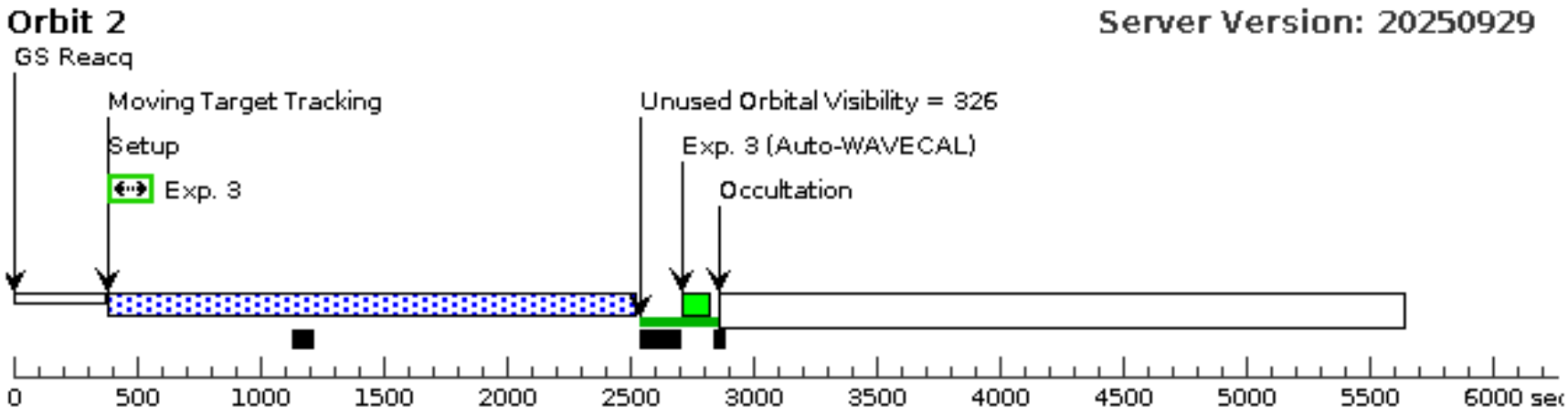
Comments: Description=Io aurora STIS G140L 52x2 during Juno PJ65
Extended=YES

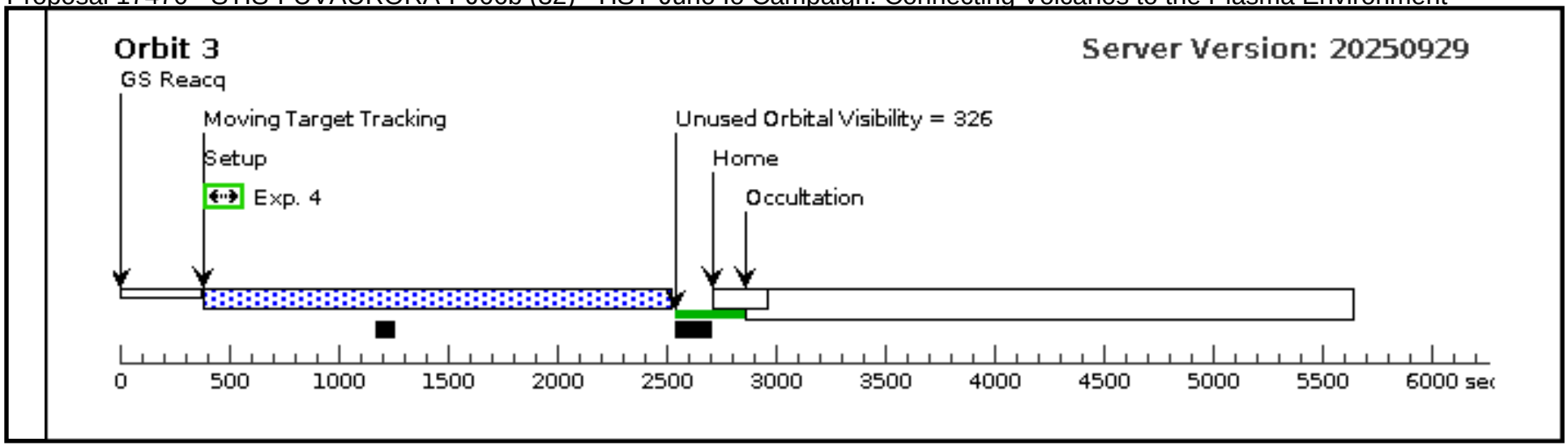
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	IO1 ACQ	(24) IO-AURORA-PJ66	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=25; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER			0.1 Secs (0.1 Secs)	
								[==>]	*[1]*
Comments: Before Sept. 21 Io checkbox 21. Before Oct. 21 Io checkbox 23. After, 25.									
2	IO1	(24) IO-AURORA-PJ66	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		1400 Secs (1453 Secs)	
								[==>1453.0 Secs]	*[1]*
3	IO2	(24) IO-AURORA-PJ66	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		2200 Secs (2124 Secs)	
								[==>2124.0 Secs]	*[2]*
4	IO2	(24) IO-AURORA-PJ66	STIS/FUV-MAMA, TIME-TAG, 52X2	G140L 1425 A	BUFFER-TIME=750	POS TARG 0.0,-5.0		2200 Secs (2084 Secs)	
								[==>2084.0 Secs]	*[3]*

Orbit Structure






Orbit 3
Server Version: 20250929
GS Reacq
Moving Target Tracking
Setup
Exp. 4
Unused Orbital Visibility = 326
Home
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17470, IO-TRANSIT-FUV-1 (40), completed Wed Dec 31 16:02:11 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/FUV-MAMA

Special Requirements: SCHED 100%

Comments: STIS FUV imaging of the plumes on the limb of Io while transiting Jupiter
Visit 1

With Io||s 1.7 day orbital period roughly 60 (35) transit events are available early (late) in Cy31 (similarly but less so for eclipse events), with one and sometimes two HST orbits possible in each event. We search for plume gas variability in 4 events using STIS*
MAMA F25QTZ FUV imaging using the dither method implemented previously for Europa to obtain ~30 km/pix resolution elements with 1-orbit per event. Two additional orbits using the same longpass (>150 nm) F25QTZ filter would assess any faint auroral emission or disk reflectance PSF systematic features.

Diagnostics

(IO-TRANSIT-FUV-1 (40)) Warning (Form): Unsupported characters were found in Comments and replaced with |*|

(Exposure 1 (IO-TRANSIT-FUV-1 (40))) Warning (Form): Sensitive exposures should have an ETC run number provided.

(IO-TRANSIT-FUV-1 (40)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(40)	IO-TRANSIT-FUV	STD=JUPITER	STD=IO		NOT OCC OF IO-TRANSIT-FUV BY JUPITER FROM EARTH, SEP OF IO-TRANSIT-FUV EUROPA FROM EARTH GT 10", SEP OF IO-TRANSIT-FUV GANYMEDE FROM EARTH GT 10", SEP OF IO-TRANSIT-FUV CALLISTO FROM EARTH GT 10", TRANSIT OF IO-TRANSIT-FUV ACROSS JUPITER FROM EARTH, OLG OF IO-TRANSIT-FUV FROM EARTH BETWEEN 175 185	EARTH

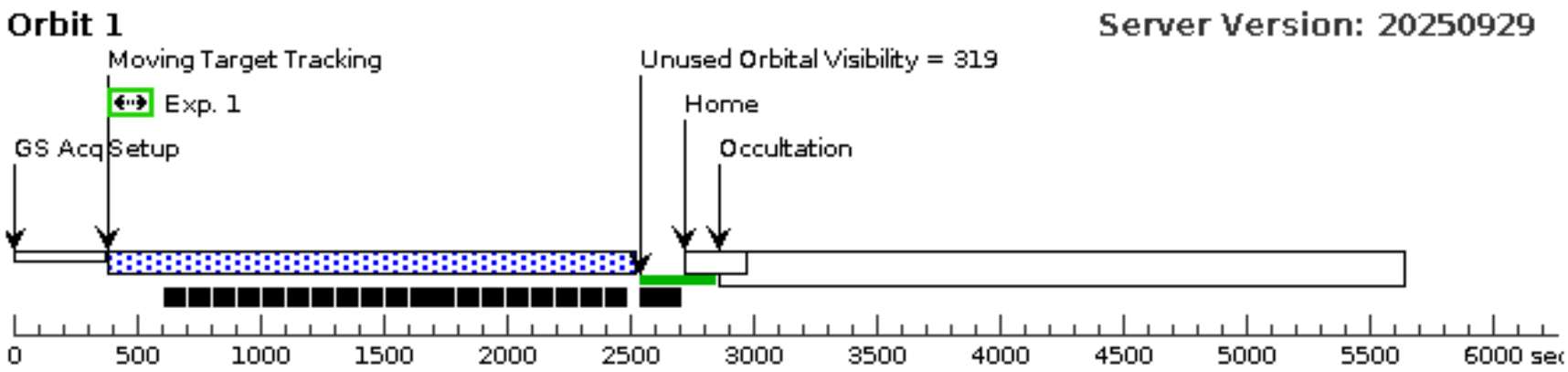
Comments: Dither pattern from Sparks Europa plume imaging program
Description=Io transiting Jupiter with STIS FUV imaging
Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(40) IO-TRANSIT-FUV	STIS/FUV-MAMA, TIME-TAG, F25QTZ	MIRROR	BUFFER-TIME=99			2000 Secs (2000 Secs)	
								[==>]	***[1]***

Comments: Make sure to offset to Io once Europa is acquired

Orbit Structure



Visit

Proposal 17470, IO-POSTTRANSIT-FUV-1 (41), completed Wed Dec 31 16:02:11 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/FUV-MAMA

Special Requirements: SCHED 100%; AFTER 40 BY 0 S TO 52 H

Comments: STIS FUV imaging of the plumes on the limb post transit
Use dither pattern
Visit 1

Diagnostics

(Exposure 1 (IO-POSTTRANSIT-FUV-1 (41))) Warning (Form): Sensitive exposures should have an ETC run number provided.

(IO-POSTTRANSIT-FUV-1 (41)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(41)	IO-POSTTRANSIT-FUV	STD=JUPITER	STD=IO		NOT OCC OF IO-POSTTRANSIT-FUV BY JUPITER FROM EARTH, SEP OF IO-POSTTRANSIT-FUV EUROPA FROM EARTH GT 10", SEP OF IO-POSTTRANSIT-FUV GANYMEDE FROM EARTH GT 10", SEP OF IO-POSTTRANSIT-FUV CALLISTO FROM EARTH GT 10", NOT TRANSIT OF IO-POSTTRANSIT-FUV ACROSS JUPITER FROM EARTH	EARTH

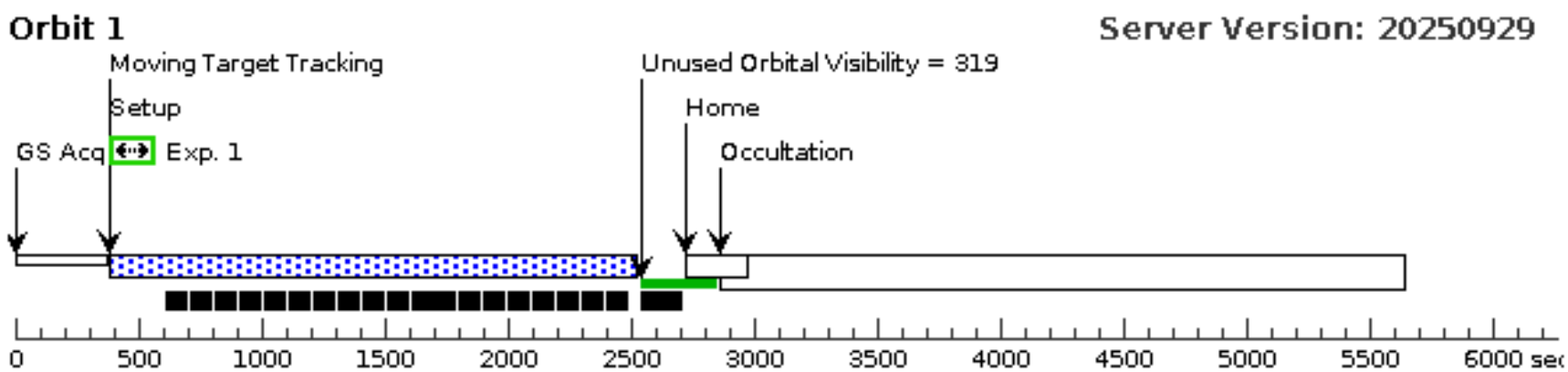
Comments: Could be 1 Io orbit later/earlier, want to avoid Jupiter limb with 25" fov of aperture but still have Io limb context ~similar to transit OLG
Use same artificial satellite dither pattern used for IO-TRANSIT-FUV
Description=Io just after transiting Jupiter with STIS FUV imaging
Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(41) IO-POSTTRANSIT-FUV	STIS/FUV-MAMA, TIME-TAG, F25QTZ	MIRROR	BUFFER-TIME=99			2000 Secs (2000 Secs)	
								[==>]	***[1]***

Comments: Make sure to offset to Io once Europa is acquired

Orbit Structure



Visit

Proposal 17470, IO-TRANSIT-FUV-2 (42), completed Wed Dec 31 16:02:11 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/FUV-MAMA

Special Requirements: SCHED 100%; BETWEEN 2025.333:23:12:00 AND 2025.334:00:12:00

Comments: STIS FUV imaging of the plumes on the limb of Io while transiting Jupiter
Visit 2

Using the Dither pattern used in Sparks' program for Europa Plumes - we'll need to iterate on the Level 3 definition of the target.

Diagnostics

(Exposure 1 (IO-TRANSIT-FUV-2 (42))) Warning (Form): Sensitive exposures should have an ETC run number provided.

(IO-TRANSIT-FUV-2 (42)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

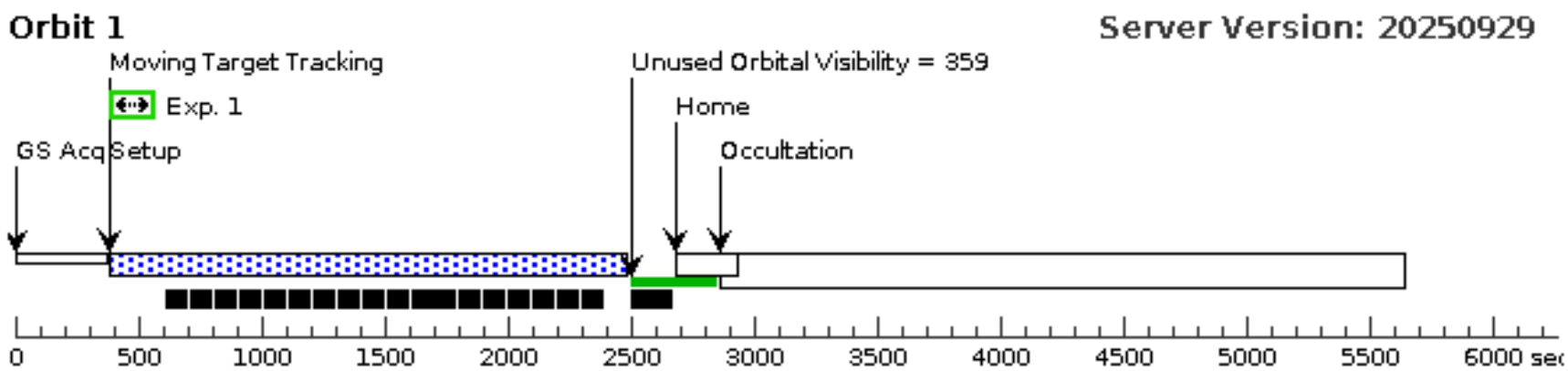
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(140)	IO-TRANSIT-FUV2	STD=JUPITER	STD=IO		TRANSIT OF IO-TRANSIT-FUV2 ACROSS JUPITER FROM EARTH, OLG OF IO-TRANSIT-FUV FROM EARTH BETWEEN 175 185, NOT OCC OF IO-TRANSIT-FUV2 BY JUPITER FROM EARTH, SEP OF IO-TRANSIT-FUV2 EUROPA FROM EARTH GT 10", SEP OF IO-TRANSIT-FUV2 GANYMEDE FROM EARTH GT 10", SEP OF IO-TRANSIT-FUV2 CALLISTO FROM EARTH GT 10"	EARTH

Comments: Skip a Level 3 or dither pattern from Sparks Europa plume imaging program - they saw a drift and this method didn't seem to work as hoped for.
Description=Io transiting Jupiter with STIS FUV imaging
Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(140) IO-TRANSIT-FUV2	STIS/FUV-MAMA, TIME-TAG, F25QTZ	MIRROR	BUFFER-TIME=99	POS TARG 7.0,-7.0		1960 Secs (1960 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 17470, IO-POSTTRANSIT-FUV-2 (43), completed Wed Dec 31 16:02:11 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/FUV-MAMA

Special Requirements: SCHED 100%; AFTER 42 BY 0 S TO 52 H

Comments: STIS FUV imaging of the plumes on the limb post transit
Use dither pattern with Level 3. Using the Dither pattern used in Sparks' program for Europa Plumes - we'll need to iterate on the Level 3 definition of the target.
Visit 2

Diagnostics

(IO-POSTTRANSIT-FUV-2 (43)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Exposure 1 (IO-POSTTRANSIT-FUV-2 (43))) Warning (Form): Sensitive exposures should have an ETC run number provided.

(IO-POSTTRANSIT-FUV-2 (43)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

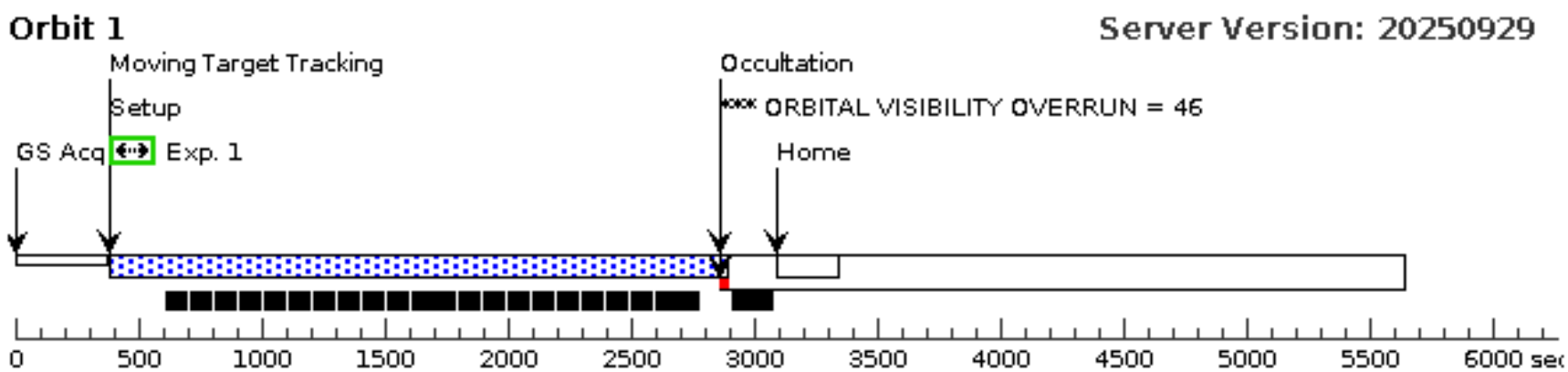
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(141)	IO-POSTTRANSIT-FUV2	STD=JUPITER	STD=IO		NOT TRANSIT OF IO-POSTTRANSIT-FUV ACROSS JUPITER FROM EARTH, NOT OCC OF IO-POSTTRANSIT-FUV2 BY JUPITER FROM EARTH, SEP OF IO-POSTTRANSIT-FUV2 EUROPA FROM EARTH GT 10", SEP OF IO-POSTTRANSIT-FUV2 GANYMEDE FROM EARTH GT 10", SEP OF IO-POSTTRANSIT-FUV2 CALLISTO FROM EARTH GT 10"	EARTH

Comments: Could be 1 Io orbit later/earlier, want to avoid Jupiter limb with 25" fov of aperture but still have Io limb context ~similar to transit OLG
Skip a Level 3 or dither pattern
Description=Io just after transiting Jupiter with STIS FUV imaging
Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(141) IO-POSTTRANSIT-FUV2	STIS/FUV-MAMA, TIME-TAG, F25QTZ	MIRROR	BUFFER-TIME=99	POS TARG 7.0,-7.0		2000 Secs (2365 Secs) *[==>2365.0 Secs]*	*[1]*

Orbit Structure



Visit

Proposal 17470, IO-TRANSIT-FUV-3 (44), completed Wed Dec 31 16:02:11 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/FUV-MAMA

Special Requirements: SCHED 100%; BETWEEN 2025.342:19:00:00 AND 2025.342:20:20:00

Comments: STIS FUV imaging of the plumes on the limb of Io while transiting Jupiter
Visit 3

Originally had requirement of AFTER 02-AUG-2024:00:00:00. This was removed to pull early.
Using the Dither pattern used in Sparks' program for Europa Plumes - we'll need to iterate on the Level 3 definition of the target.

Diagnostics

(Exposure 1 (IO-TRANSIT-FUV-3 (44))) Warning (Form): Sensitive exposures should have an ETC run number provided.

(IO-TRANSIT-FUV-3 (44)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(140)	IO-TRANSIT-FUV2	STD=JUPITER	STD=IO		TRANSIT OF IO-TRANSIT-FUV2 ACROSS JUPITER FROM EARTH, OLG OF IO-TRANSIT-FUV FROM EARTH BETWEEN 175 185, NOT OCC OF IO-TRANSIT-FUV2 BY JUPITER FROM EARTH, SEP OF IO-TRANSIT-FUV2 EUROPA FROM EARTH GT 10", SEP OF IO-TRANSIT-FUV2 GANYMEDE FROM EARTH GT 10", SEP OF IO-TRANSIT-FUV2 CALLISTO FROM EARTH GT 10"	EARTH

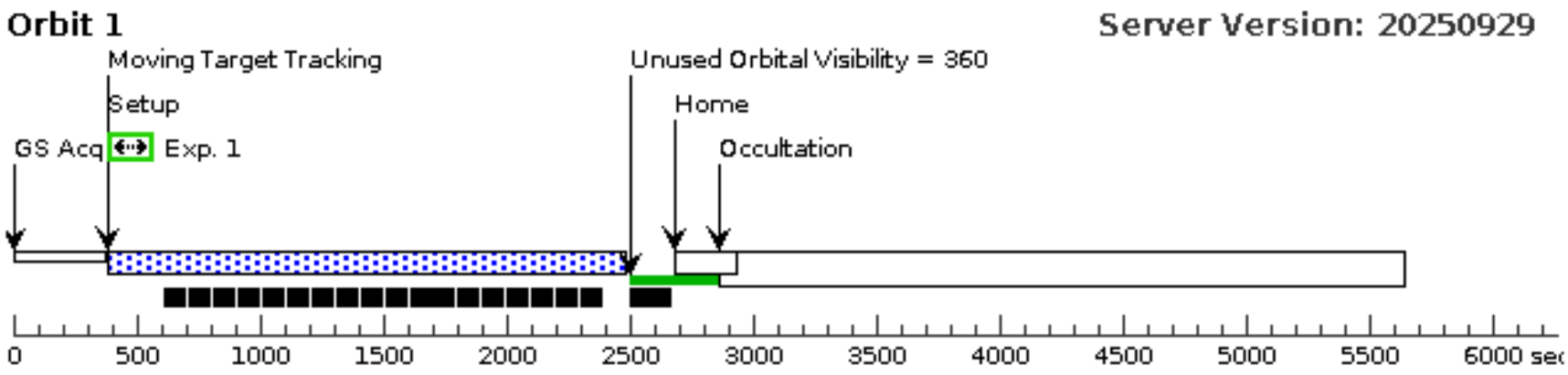
Comments: Skip a Level 3 or dither pattern from Sparks Europa plume imaging program - they saw a drift and this method didn't seem to work as hoped for.
Description=Io transiting Jupiter with STIS FUV imaging
Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(140) IO-TRANSIT-FUV2	STIS/FUV-MAMA, TIME-TAG, F25QTZ	MIRROR	BUFFER-TIME=99	POS TARG 7,-7.0		1280 Secs (1959 Secs)	
								[==>1959.0 Secs]	***[1]***

Comments: Skip the Europa acquisition and offset. Visits 40/41 look good.

Orbit Structure



Visit

Proposal 17470, IO-TRANSIT-NUV-4 (45), implementation Wed Dec 31 16:02:11 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/NUV-MAMA

Special Requirements: SCHED 100%; AFTER 02-AUG-2024:00:00:00

Comments: STIS FUV imaging of the plumes on the limb of Io while transiting Jupiter
Visit 4

Trying another detector but with same 25QTZ filter based on Kandis Lea and Lori's suggestion.

Diagnostics

(Exposure 1 (IO-TRANSIT-NUV-4 (45))) Warning (Form): Sensitive exposures should have an ETC run number provided.

(IO-TRANSIT-NUV-4 (45)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(205)	IO-TRANSIT-NUV4	STD=JUPITER	STD=IO		TRANSIT OF IO-TRANSIT-FUV ACROSS JUPITER FROM EARTH, OLG OF IO-TRANSIT-FUV FROM EARTH BETWEEN 175 185, NOT OCC OF IO-TRANSIT-NUV4 BY JUPITER FROM EARTH, SEP OF IO-TRANSIT-NUV4 EUROPA FROM EARTH GT 10", SEP OF IO-TRANSIT-NUV4 GANYMEDE FROM EARTH GT 10", SEP OF IO-TRANSIT-NUV4 CALLISTO FROM EARTH GT 10"	EARTH

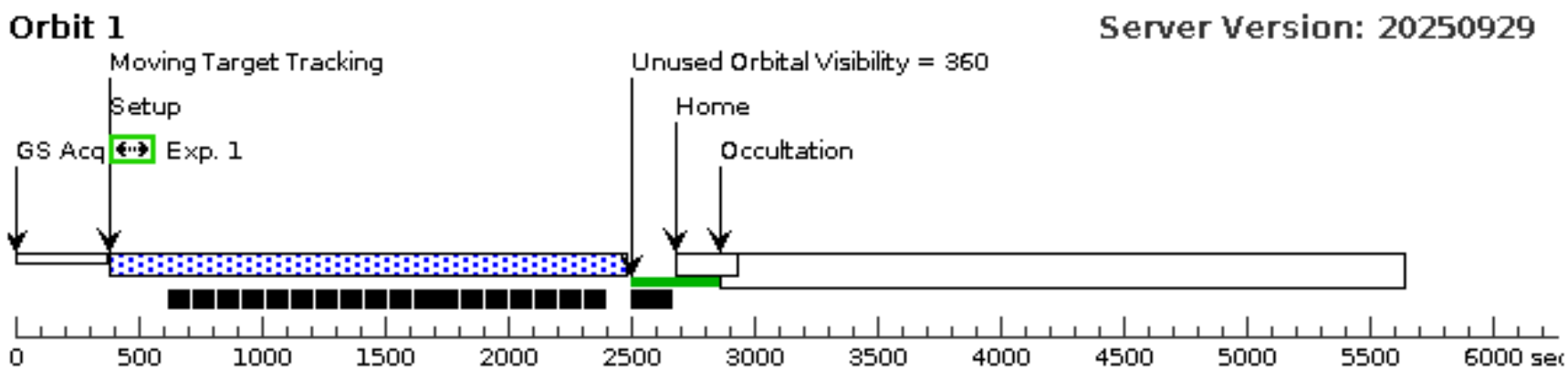
Comments: No Dither pattern
Description=Io transiting Jupiter with STIS NUV imaging
Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(205) IO-TRANSIT-NUV4	STIS/NUV-MAMA, TIME-TAG, F25QTZ	MIRROR	BUFFER-TIME=99	POS TARG null,-3.0		1280 Secs (1949 Secs)	
								[==>1949.0 Secs]	***[1]***

Comments: Skip the Europa acquisition and offset. Visits 40/41 look good.

Orbit Structure



Visit

Proposal 17470, IO-WFC3-Transit-1 (46), failed Wed Dec 31 16:02:11 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: SCHED 100%

Comments: Imaging mostly dust absorption at visible wavelengths, transit events near the beginning and end of Cy31 (1-orbit each) are planned with WFC3 filter sets (F225W, F275W, F336W, F343N, F390M, F390W, F467M, F502N, F555W).

BEFORE timing requirement replaced with a BETWEEN of Nov 26 to Dec 9. This allows scheduling in 4 transits that are known to work and have no conflicts. - Januszewski

If we have a few more seconds to optimize the orbit window then adding time evenly to F225W and F275W will be good. Implementing a 3-pt dither pattern with three exposures per filter setting.

Diagnostics

(IO-WFC3-Transit-1 (46)) Warning (Orbit Planner): GS ACQ SCENARIO REQUESTED INCONSISTENT WITH VISIT GYRO MODE

(IO-WFC3-Transit-1 (46)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(IO-WFC3-Transit-1 (46)) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED

(IO-WFC3-Transit-1 (46)) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED

(IO-WFC3-Transit-1 (46)) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED

(Exposure 1 (Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (46))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

(Exposure 1 (Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (46)) special requirements) Warning (Form): The specified GS Acq Scenario is not in the current list of valid scenarios.

(Exposure 2 (Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (46))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

(Exposure 3 (Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (46))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

(Exposure 4 (Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (46))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

(Exposure 5 (Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (46))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

(Exposure 6 (Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (46))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

(Exposure 7 (Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (46))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

(Exposure 8 (Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (46))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

(Exposure 9 (Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (46))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

(IO-WFC3-Transit-1 (46)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(11)	Pattern Type=WFC3-UVIS-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.135 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1-9)

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(42)	IO-TRANSIT-WFC3	STD=JUPITER	STD=IO		NOT OCC OF IO-TRANSIT-WFC3 BY JUPITER FROM EARTH, SEP OF IO-TRANSIT-WFC3 EUROPA FROM EARTH GT 3", SEP OF IO-TRANSIT-WFC3 GANYMEDE FROM EARTH GT 3", SEP OF IO-TRANSIT-WFC3 CALLISTO FROM EARTH GT 3", TRANSIT OF IO-TRANSIT-WFC3 ACROSS JUPITER FROM EARTH	EARTH

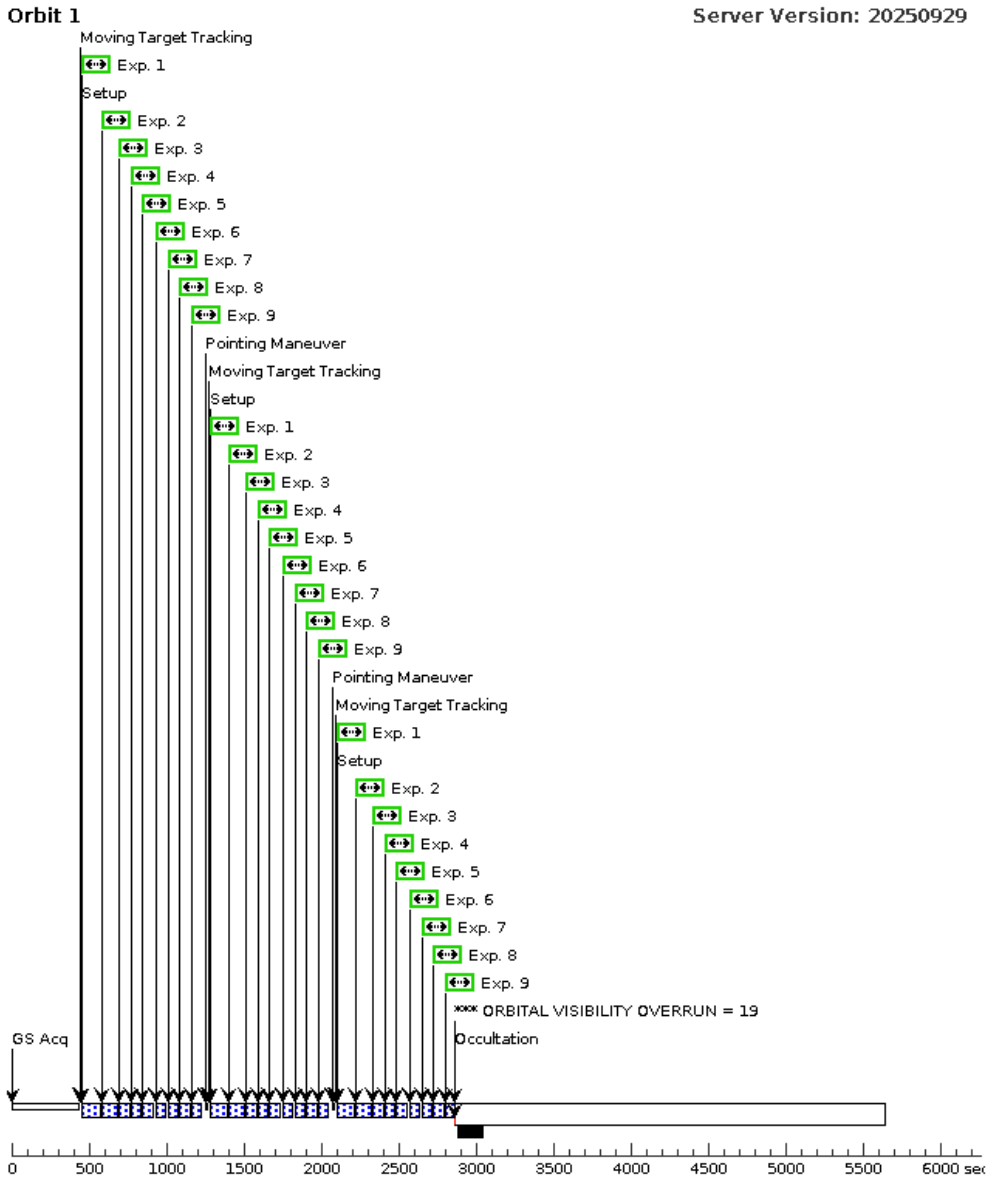
Comments: Description=Io transiting Jupiter with WFC3 imaging
Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(42) IO-TRANSIT-WFC3	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F225W	CR-SPLIT=NO	GS ACQ SCENARIO BASE1BR	Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (46) Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (46) (11)	45 Secs (135 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
Comments: Exposures parallel those in Program 17294 OPAL. Offers more complete wavelength coverage with all bands.									
2		(42) IO-TRANSIT-WFC3	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F275W	CR-SPLIT=NO		Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (46) Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (46) (11)	30 Secs (90 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
Comments: Exposures parallel those in Program 17294 OPAL. Offers more complete wavelength coverage with all bands. Replace F280N with F275W for better signal quality and bandpass coverage.									
3		(42) IO-TRANSIT-WFC3	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F336W	CR-SPLIT=NO		Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (46) Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (46) (11)	3 Secs (9 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
Comments: Exposures parallel those in Program 17294 OPAL. Offers more complete wavelength coverage with all bands.									
4		(42) IO-TRANSIT-WFC3	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F343N	CR-SPLIT=NO		Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (46) Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (46) (11)	6 Secs (18 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
Comments: Exposures parallel those in Program 17294 OPAL. Offers more complete wavelength coverage with all bands.									
5		(42) IO-TRANSIT-WFC3	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F390M	CR-SPLIT=NO		Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (46) Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (46) (11)	4 Secs (12 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
Comments: Exposures parallel those in Program 17294 OPAL. Offers more complete wavelength coverage with all bands.									
6		(42) IO-TRANSIT-WFC3	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F390W	CR-SPLIT=NO		Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (46) Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (46) (11)	1 Secs (3 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
Comments: Exposures parallel those in Program 17294 OPAL. Offers more complete wavelength coverage with all bands.									

	7	(42) IO-TRANSIT-WFC3	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F467M	CR-SPLIT=NO	Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (46) Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (46) (11)	1.2 Secs (3.6 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
	Comments: Exposures parallel those in Program 17294 OPAL. Offers more complete wavelength coverage with all bands.							
	8	(42) IO-TRANSIT-WFC3	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F502N	CR-SPLIT=NO	Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (46) Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (46) (11)	3 Secs (9 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
	Comments: Exposures parallel those in Program 17294 OPAL. Offers more complete wavelength coverage with all bands.							
	9	(42) IO-TRANSIT-WFC3	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F547M	CR-SPLIT=NO	Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (46) Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (46) (11)	0.5 Secs (1.5 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
	Comments: Exposures parallel those in Program 17294 OPAL. Offers more complete wavelength coverage with all bands.							

Orbit Structure



Visit

Proposal 17470, IO-WFC3-Transit-1 (90), completed Wed Dec 31 16:02:11 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: SCHED 100%; BETWEEN 28-NOV-2024:13:52:00 AND 28-NOV-2024:14:52:00; BETWEEN 05-DEC-2024:14:29:00 AND 05-DEC-2024:15:29:00

Comments: HOPR Repeat of visit 46.

Imaging mostly dust absorption at visible wavelengths, transit events near the beginning and end of Cy31 (1-orbit each) are planned with WFC3 filter sets (F225W, F275W, F336W, F343N, F390M, F390W, F467M, F502N, F555W).

BEFORE timing requirement replaced with a BETWEEN of Nov 26 to Dec 9. This allows scheduling in 4 transits that are known to work and have no conflicts. - Januszewski

If we have a few more seconds to optimize the orbit window then adding time evenly to F225W and F275W will be good. Implementing a 3-pt dither pattern with three exposures per filter setting.

Diagnostics

(IO-WFC3-Transit-1 (90)) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED

(IO-WFC3-Transit-1 (90)) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED

(IO-WFC3-Transit-1 (90)) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED

(Exposure 1 (Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (90))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

(Exposure 2 (Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (90))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

(Exposure 3 (Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (90))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

(Exposure 4 (Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (90))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

(Exposure 5 (Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (90))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

(Exposure 6 (Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (90))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

(Exposure 7 (Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (90))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

(Exposure 8 (Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (90))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

(Exposure 9 (Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (90))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

(IO-WFC3-Transit-1 (90)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(11)	Pattern Type=WFC3-UVIS-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.135 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1-9)

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(42)	IO-TRANSIT-WFC3	STD=JUPITER	STD=IO		NOT OCC OF IO-TRANSIT-WFC3 BY JUPITER FROM EARTH, SEP OF IO-TRANSIT-WFC3 EUROPA FROM EARTH GT 3", SEP OF IO-TRANSIT-WFC3 GANYMEDE FROM EARTH GT 3", SEP OF IO-TRANSIT-WFC3 CALLISTO FROM EARTH GT 3", TRANSIT OF IO-TRANSIT-WFC3 ACROSS JUPITER FROM EARTH	EARTH

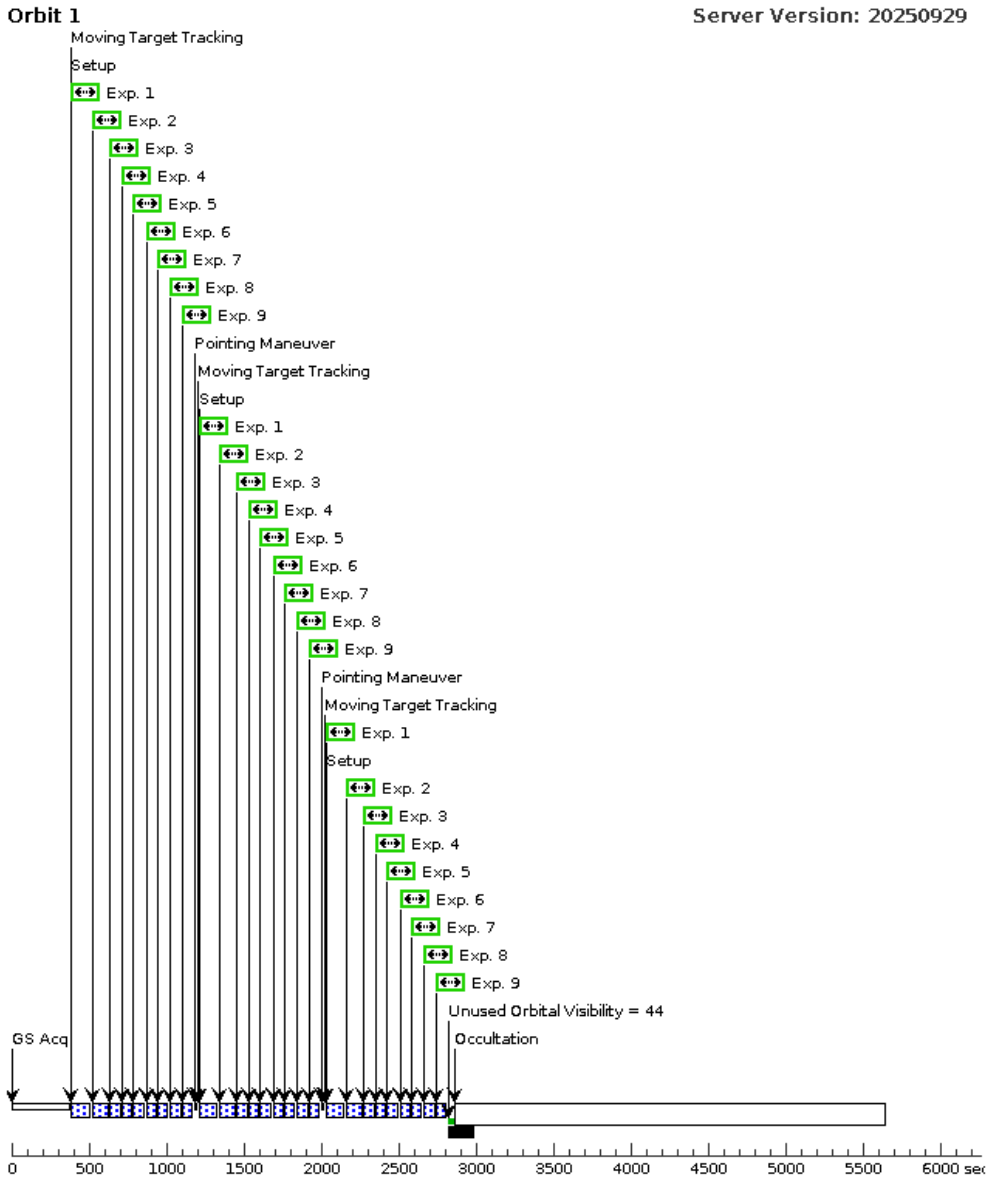
Comments: Description=Io transiting Jupiter with WFC3 imaging
Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(42) IO-TRANSIT-WFC3	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F225W	CR-SPLIT=NO		Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (90) Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (90) (11)	45 Secs (135 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
Comments: Exposures parallel those in Program 17294 OPAL. Offers more complete wavelength coverage with all bands.									
2		(42) IO-TRANSIT-WFC3	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F275W	CR-SPLIT=NO		Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (90) Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (90) (11)	30 Secs (90 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
Comments: Exposures parallel those in Program 17294 OPAL. Offers more complete wavelength coverage with all bands. Replace F280N with F275W for better signal quality and bandpass coverage.									
3		(42) IO-TRANSIT-WFC3	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F336W	CR-SPLIT=NO		Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (90) Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (90) (11)	3 Secs (9 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
Comments: Exposures parallel those in Program 17294 OPAL. Offers more complete wavelength coverage with all bands.									
4		(42) IO-TRANSIT-WFC3	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F343N	CR-SPLIT=NO		Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (90) Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (90) (11)	6 Secs (18 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
Comments: Exposures parallel those in Program 17294 OPAL. Offers more complete wavelength coverage with all bands.									
5		(42) IO-TRANSIT-WFC3	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F390M	CR-SPLIT=NO		Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (90) Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (90) (11)	4 Secs (12 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
Comments: Exposures parallel those in Program 17294 OPAL. Offers more complete wavelength coverage with all bands.									
6		(42) IO-TRANSIT-WFC3	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F390W	CR-SPLIT=NO		Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (90) Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (90) (11)	1 Secs (3 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
Comments: Exposures parallel those in Program 17294 OPAL. Offers more complete wavelength coverage with all bands.									

	7	(42) IO-TRANSIT-WFC3	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F467M	CR-SPLIT=NO	Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (90) Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (90) (11)	1.2 Secs (3.6 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
	Comments: Exposures parallel those in Program 17294 OPAL. Offers more complete wavelength coverage with all bands.							
	8	(42) IO-TRANSIT-WFC3	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F502N	CR-SPLIT=NO	Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (90) Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (90) (11)	3 Secs (9 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
	Comments: Exposures parallel those in Program 17294 OPAL. Offers more complete wavelength coverage with all bands.							
	9	(42) IO-TRANSIT-WFC3	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F547M	CR-SPLIT=NO	Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (90) Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-1 (90) (11)	0.5 Secs (1.5 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
	Comments: Exposures parallel those in Program 17294 OPAL. Offers more complete wavelength coverage with all bands.							

Orbit Structure



Visit

Proposal 17470, IO-WFC3-Transit-2 (47), completed Wed Dec 31 16:02:11 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: SCHED 100%; BETWEEN 2024.262:19:20:00 AND 2024.262:20:20:00

Comments: Imaging mostly dust absorption at visible wavelengths, transit events near the beginning and end of Cy31 (1-orbit each) are planned with WFC3 filter sets (F225W, F280N, F336W, F343N, F390W, F475W, F555W).

Diagnostics

(IO-WFC3-Transit-2 (47)) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED

(IO-WFC3-Transit-2 (47)) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED

(IO-WFC3-Transit-2 (47)) Warning (Orbit Planner): WFC3 EXPOSURE TIME ADJUSTED

(Exposure 1 (Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-2 (47))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

(Exposure 2 (Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-2 (47))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

(Exposure 3 (Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-2 (47))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

(Exposure 4 (Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-2 (47))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

(Exposure 5 (Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-2 (47))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

(Exposure 6 (Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-2 (47))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

(Exposure 7 (Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-2 (47))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

(Exposure 8 (Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-2 (47))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

(Exposure 9 (Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-2 (47))) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser

(IO-WFC3-Transit-2 (47)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(11)	Pattern Type=WFC3-UVIS-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.135 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1-9)

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(42)	IO-TRANSIT-WFC3	STD=JUPITER	STD=IO		NOT OCC OF IO-TRANSIT-WFC3 BY JUPITER FROM EARTH, SEP OF IO-TRANSIT-WFC3 EUROPA FROM EARTH GT 3", SEP OF IO-TRANSIT-WFC3 GANYMEDE FROM EARTH GT 3", SEP OF IO-TRANSIT-WFC3 CALLISTO FROM EARTH GT 3", TRANSIT OF IO-TRANSIT-WFC3 ACROSS JUPITER FROM EARTH	EARTH

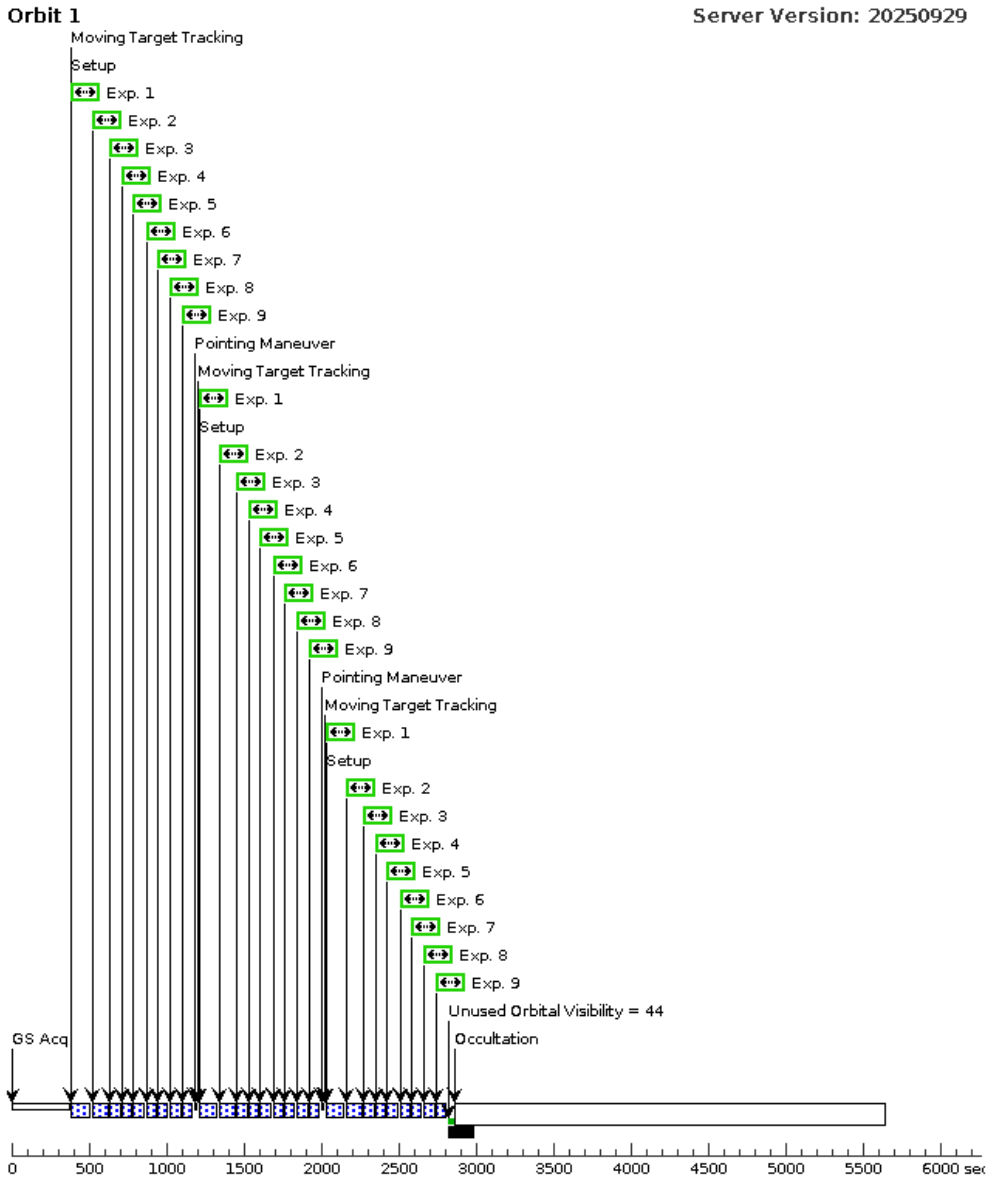
Comments: Description=Io transiting Jupiter with WFC3 imaging
Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(42) IO-TRANSIT-WFC3	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F225W	CR-SPLIT=NO		Sequence 1-9 Non-Int in IO-WFC3-Transit-2 (47) Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-2 (47) (11)	45 Secs (135 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
Comments: Exposures parallel those in Program 17294 OPAL. Offers more complete wavelength coverage with all bands.									
2		(42) IO-TRANSIT-WFC3	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F275W	CR-SPLIT=NO		Sequence 1-9 Non-Int in IO-WFC3-Transit-2 (47) Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-2 (47) (11)	30 Secs (90 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
Comments: Exposures parallel those in Program 17294 OPAL. Offers more complete wavelength coverage with all bands. Replace F280N with F275W for better signal quality and bandpass coverage.									
3		(42) IO-TRANSIT-WFC3	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F336W	CR-SPLIT=NO		Sequence 1-9 Non-Int in IO-WFC3-Transit-2 (47) Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-2 (47) (11)	3 Secs (9 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
Comments: Exposures parallel those in Program 17294 OPAL. Offers more complete wavelength coverage with all bands.									
4		(42) IO-TRANSIT-WFC3	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F343N	CR-SPLIT=NO		Sequence 1-9 Non-Int in IO-WFC3-Transit-2 (47) Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-2 (47) (11)	6 Secs (18 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
Comments: Exposures parallel those in Program 17294 OPAL. Offers more complete wavelength coverage with all bands.									
5		(42) IO-TRANSIT-WFC3	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F390M	CR-SPLIT=NO		Sequence 1-9 Non-Int in IO-WFC3-Transit-2 (47) Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-2 (47) (11)	4 Secs (12 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
Comments: Exposures parallel those in Program 17294 OPAL. Offers more complete wavelength coverage with all bands.									
6		(42) IO-TRANSIT-WFC3	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F390W	CR-SPLIT=NO		Sequence 1-9 Non-Int in IO-WFC3-Transit-2 (47) Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-2 (47) (11)	1 Secs (3 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
Comments: Exposures parallel those in Program 17294 OPAL. Offers more complete wavelength coverage with all bands.									

	7	(42) IO-TRANSIT-WFC3	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F467M	CR-SPLIT=NO	Sequence 1-9 Non-Int in IO-WFC3-Transit-2 (47) Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-2 (47) (11)	1.2 Secs (3.6 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
	Comments: Exposures parallel those in Program 17294 OPAL. Offers more complete wavelength coverage with all bands.							
	8	(42) IO-TRANSIT-WFC3	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F502N	CR-SPLIT=NO	Sequence 1-9 Non-Int in IO-WFC3-Transit-2 (47) Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-2 (47) (11)	3 Secs (9 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
	Comments: Exposures parallel those in Program 17294 OPAL. Offers more complete wavelength coverage with all bands.							
	9	(42) IO-TRANSIT-WFC3	WFC3/UVIS, ACCUM, UVIS2-C512C-SUB	F547M	CR-SPLIT=NO	Sequence 1-9 Non-Int in IO-WFC3-Transit-2 (47) Pattern 11, Exps 1-9 in Sequence 1-9 Non-Int in IO-WFC3-Transit-2 (47) (11)	0.5 Secs (1.5 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***
	Comments: Exposures parallel those in Program 17294 OPAL. Offers more complete wavelength coverage with all bands.							

Orbit Structure



Visit

Proposal 17470, IO-TRANSIT-STISNUV-SO2-1 (48), completed Wed Dec 31 16:02:11 GMT 2025

Diagnostic Status: Informational

Scientific Instruments: STIS/NUV-MAMA, STIS/CCD

Special Requirements: SCHED 100%; BETWEEN 02-DEC-2024:01:33:00 AND 02-DEC-2024:03:57:00

Comments: Version of the NUV transit observation using central wavelength 2095

BETWEEN added to target a specific transit the PC knows will work.

Diagnostics

(IO-TRANSIT-STISNUV-SO2-1 (48)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(5)	Pattern Type=STIS-PERP-TO-SLIT Purpose=MOSAIC Number Of Points=4 Point Spacing=0.1 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=0.0 Angle Between Sides= Center Pattern=true		(2)

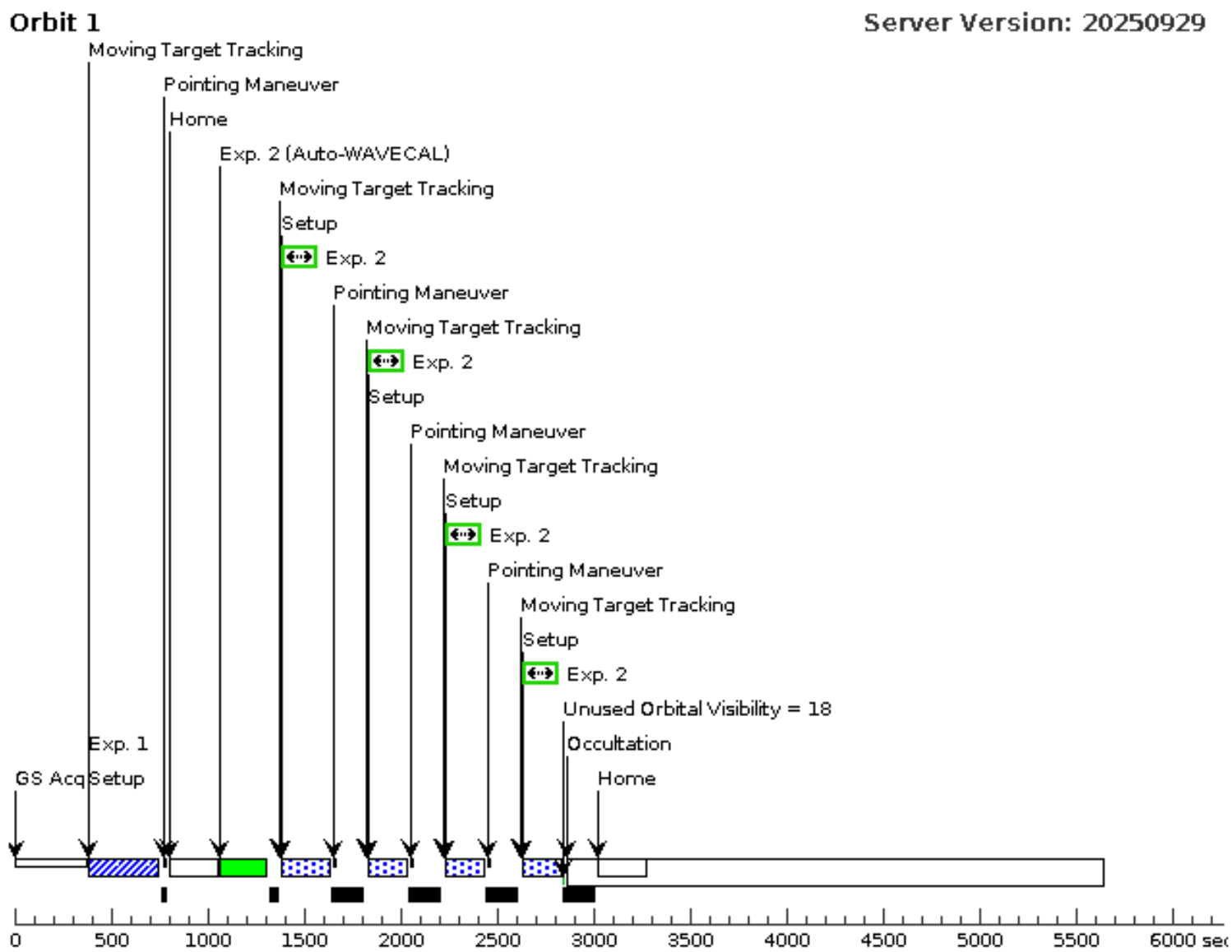
Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(43)	IO-TRANSIT-STISNUV	STD=JUPITER	STD=IO		NOT OCC OF IO-TRANSIT-STISNUV BY JUPITER FROM EARTH, SEP OF IO-TRANSIT-STISNUV EUROPA FROM EARTH GT 10", SEP OF IO-TRANSIT-STISNUV GANYMEDE FROM EARTH GT 10", SEP OF IO-TRANSIT-STISNUV CALLISTO FROM EARTH GT 10", TRANSIT OF IO-TRANSIT-STISNUV ACROSS JUPITER FROM EARTH	EARTH
Comments: Description=Io transiting Jupiter with STIS NUV spectral imaging Extended=YES						
(100)	EUROPA-ACQ	STD=JUPITER	STD=EUROPA		NOT OCC OF EUROPA-ACQ BY JUPITER FROM EARTH, SEP OF EUROPA-ACQ IO FROM EARTH GT 50", SEP OF EUROPA-ACQ GANYMEDE FROM EARTH GT 10", SEP OF EUROPA-ACQ CALLISTO FROM EARTH GT 10", NOT TRANSIT OF EUROPA-ACQ ACROSS JUPITER FROM EARTH	EARTH
Comments: Could use Ganymede or Callisto instead If Jupiter max angular diam is ~48" during Cycle 31, and this acquisition is used for Io in eclipse/transit, need Europa to be separated from Io by at least 24", but that puts it right on Jupiter limb, so I doubled that angular distance Added observing restriction of Europa transiting Jupiter as well Description=For transit/eclipse observations where acquisition images of Io are not possible Extended=YES						

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	acquisition	(100) EUROPA-ACQ	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=21; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER			0.1 Secs (0.1 Secs) *[==>]*	***[1]***
Comments: For acquisition with Europa on 25 November 2023: Europa diameter is 1.0.6 arcesc. Thus the checkbox is set to 1.06/0.05 = 21 pixels here. *October 8-10, 2024 is 18.9 pixels for Europa, hend checkbox 19.*									
2	(STIS.sp.1890339)	(43) IO-TRANSIT-STISNUV	STIS/NUV-MAMA, TIME-TAG, 52X0.5	G230M 2095 A	BUFFER-TIME=100		Pattern 5, Exps 2-2 in IO-TRANSIT-STISNUV-SO2-1 (48) (5)	200 Secs (736 Secs) *[==>184.0 Secs (Pattern 1)]* *[==>184.0 Secs (Pattern 2)]* *[==>184.0 Secs (Pattern 3)]* *[==>184.0 Secs (Pattern 4)]*	***[1]***

Orbit Structure



Visit

Proposal 17470, IO-TRANSIT-STISNUV-SO2-2 (49), completed Wed Dec 31 16:02:11 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/NUV-MAMA, STIS/CCD

Special Requirements: SCHED 100%; AFTER 02-AUG-2024:00:00:00

Comments: Version of the NUV transit observation using central wavelength 2095

Diagnostics

(IO-TRANSIT-STISNUV-SO2-2 (49)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(IO-TRANSIT-STISNUV-SO2-2 (49)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(5)	Pattern Type=STIS-PERP-TO-SLIT Purpose=MOSAIC Number Of Points=4 Point Spacing=0.1 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=0.0 Angle Between Sides= Center Pattern=true		(2)

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(143)	IO-TRANSIT-STISNUV2	STD=JUPITER	STD=IO		NOT OCC OF IO-TRANSIT-STISNUV2 BY JUPITER FROM EARTH, SEP OF IO-TRANSIT-STISNUV2 EUROPA FROM EARTH GT 10", SEP OF IO-TRANSIT-STISNUV2 GANYMEDE FROM EARTH GT 10", SEP OF IO-TRANSIT-STISNUV2 CALLISTO FROM EARTH GT 10", TRANSIT OF IO ACROSS JUPITER FROM EARTH	EARTH
(206)	EUROPA-ACQ3	STD=JUPITER	STD=EUROPA		NOT OCC OF EUROPA-ACQ3 BY JUPITER FROM EARTH, SEP OF EUROPA-ACQ3 IO FROM EARTH GT 50", SEP OF EUROPA-ACQ3 GANYMEDE FROM EARTH GT 10", SEP OF EUROPA-ACQ3 CALLISTO FROM EARTH GT 10", NOT TRANSIT OF EUROPA-ACQ ACROSS JUPITER FROM EARTH	EARTH

Comments: Description=Io transiting Jupiter with STIS NUV spectral imaging
Extended=YES

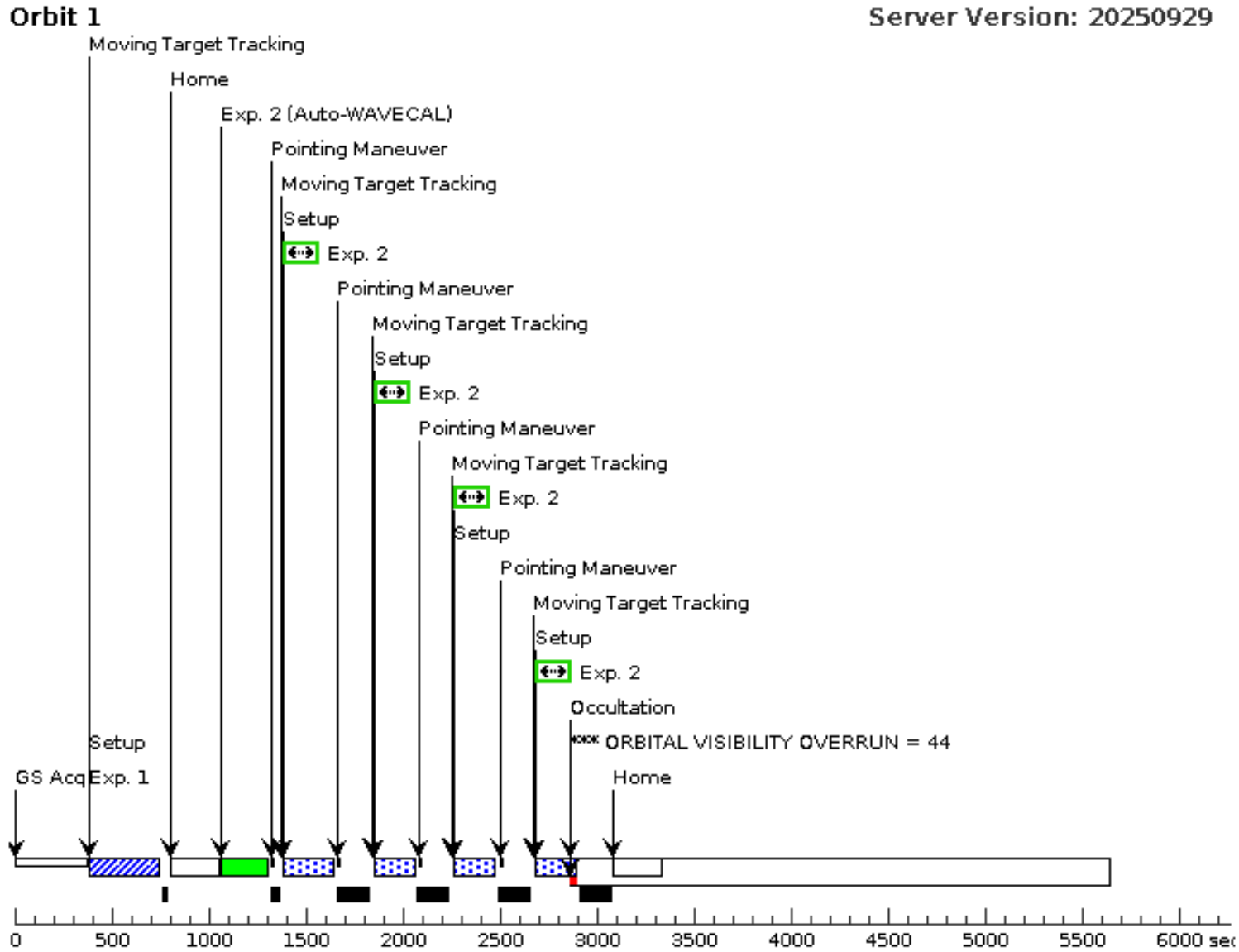
Comments: Could use Ganymede or Callisto instead
If Jupiter max angular diam is ~48" during Cycle 31, and this acquisition is used for Io in eclipse/transit, need Europa to be separated from Io by at least 24", but that puts it right on Jupiter limb, so I doubled that angular distance
Added observing restriction of Europa transiting Jupiter as well

Duplicate of target 199 & 202.
Description=For transit/eclipse observations where acquisition images of Io are not possible
Extended=YES

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	target acquisition	(206) EUROPA-ACQ3	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=21; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER		Sequence 1-2 Non-Int in IO-TRANSIT-STISNUV-SO2-2 (49)	0.3 Secs (0.3 Secs) *[==>]*	***[1]***
Comments: Used the exposure time from previous programs (e.g.15419)									
2	(STIS.sp.1890339)	(143) IO-TRANSIT-STISNUV2	STIS/NUV-MAMA, TIME-TAG, 52X0.5	G230M 2095 A	BUFFER-TIME=128		Sequence 1-2 Non-Int in IO-TRANSIT-STISNUV-SO2-2 (49) Pattern 5, Exps 2-2 in Sequence 1-2 Non-Int in IO-TRANSIT-STISNUV-SO2-2 (49) (5)	200 Secs (796 Secs) *[==>199.0 Secs (Pattern 1)]* *[==>199.0 Secs (Pattern 2)]* *[==>199.0 Secs (Pattern 3)]* *[==>199.0 Secs (Pattern 4)]*	***[1]***

Orbit Structure



Visit

Proposal 17470, IO-TRANSIT-STISNUV-S2-1 (50), implementation Wed Dec 31 16:02:11 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/NUV-MAMA, STIS/CCD

Special Requirements: SCHED 100%

Comments: Version of the NUV transit observation using central wavelength 2659

Diagnostics

(IO-TRANSIT-STISNUV-S2-1 (50)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Exposure 2 (Pattern 6, Exps 2-2 in Sequence 1-2 Non-Int in IO-TRANSIT-STISNUV-S2-1 (50))) Warning (Form): Sensitive exposures should have an ETC run number provided.

(IO-TRANSIT-STISNUV-S2-1 (50)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(6)	Pattern Type=STIS-PERP-TO-SLIT Purpose=MOSAIC Number Of Points=5 Point Spacing=0.2 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=0.0 Angle Between Sides= Center Pattern=true		(2)

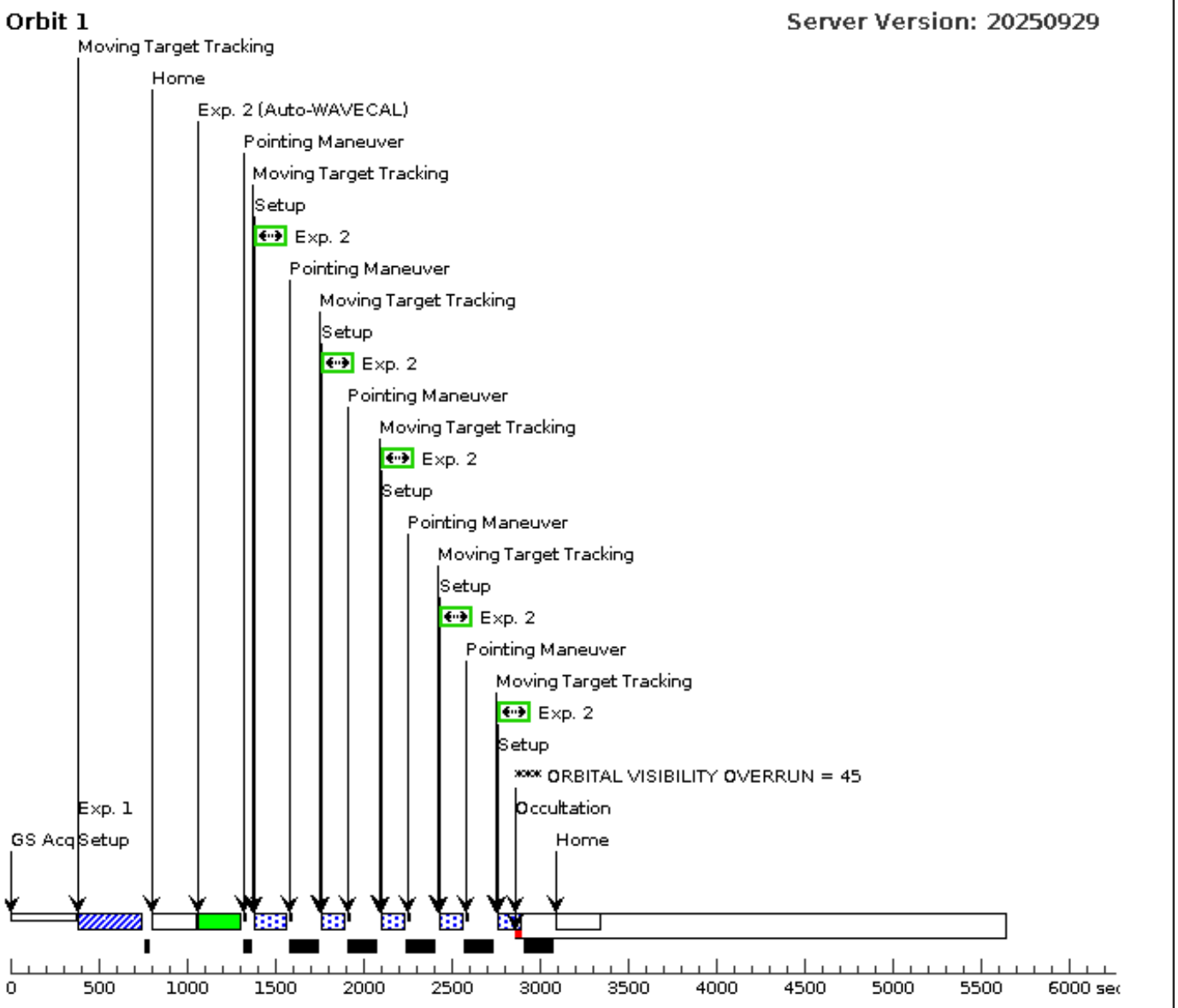
Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(143)	IO-TRANSIT-STISNUV2	STD=JUPITER	STD=IO		NOT OCC OF IO-TRANSIT-STISNUV2 BY JUPITER FROM EARTH, SEP OF IO-TRANSIT-STISNUV2 EUROPA FROM EARTH GT 10", SEP OF IO-TRANSIT-STISNUV2 GANYMEDE FROM EARTH GT 10", SEP OF IO-TRANSIT-STISNUV2 CALLISTO FROM EARTH GT 10", TRANSIT OF IO ACROSS JUPITER FROM EARTH	EARTH
Comments: Description=Io transiting Jupiter with STIS NUV spectral imaging Extended=YES						
(206)	EUROPA-ACQ3	STD=JUPITER	STD=EUROPA		NOT OCC OF EUROPA-ACQ3 BY JUPITER FROM EARTH, SEP OF EUROPA-ACQ3 IO FROM EARTH GT 50", SEP OF EUROPA-ACQ3 GANYMEDE FROM EARTH GT 10", SEP OF EUROPA-ACQ3 CALLISTO FROM EARTH GT 10", NOT TRANSIT OF EUROPA-ACQ ACROSS JUPITER FROM EARTH	EARTH
Comments: Could use Ganymede or Callisto instead If Jupiter max angular diam is ~48" during Cycle 31, and this acquisition is used for Io in eclipse/transit, need Europa to be separated from Io by at least 24", but that puts it right on Jupiter limb, so I doubled that angular distance Added observing restriction of Europa transiting Jupiter as well Duplicate of target 199 & 202. Description=For transit/eclipse observations where acquisition images of Io are not possible Extended=YES						

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	target acquisition	(206) EUROPA-ACQ3	STIS/CCD, ACQ, F28X50LP	MIRROR	ACQTYPE=DIFFUSE; CHECKBOX=21; DIFFUSE-CENTER=GEOMETRIC-CENTER		Sequence 1-2 Non-Int in IO-TRANSIT-STISNUV-S2-1 (50)	0.3 Secs (0.3 Secs) *[==>]*	***[1]***
Comments: Used the exposure time from previous programs (e.g.15419)									
2		(143) IO-TRANSIT-STISNUV2	STIS/NUV-MAMA, TIME-TAG, 52X0.5	G230M 2659 A	BUFFER-TIME=120		Sequence 1-2 Non-Int in IO-TRANSIT-STISNUV-S2-1 (50) Pattern 6, Exps 2-2 in Sequence 1-2 Non-Int in IO-TRANSIT-STISNUV-S2-1 (50) (6)	130 Secs (580 Secs) *[==>116.0 Secs (Pattern 1)]* *[==>116.0 Secs (Pattern 2)]* *[==>116.0 Secs (Pattern 3)]* *[==>116.0 Secs (Pattern 4)]* *[==>116.0 Secs (Pattern 5)]*	***[1]***

Orbit Structure



Visit

Proposal 17470, IO-TRANSIT-STISNUV-S2-2 (51), implementation Wed Dec 31 16:02:11 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/NUV-MAMA, STIS/CCD

Special Requirements: SCHED 100%; AFTER 02-AUG-2023:00:00:00

Comments: Version of the NUV transit observation using central wavelength 2659

Diagnostics

(Exposure 2 (Pattern 6, Exps 2-2 in Sequence 1-2 Non-Int in IO-TRANSIT-STISNUV-S2-2 (51))) Warning (Form): Sensitive exposures should have an ETC run number provided.

(IO-TRANSIT-STISNUV-S2-2 (51)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(6)	Pattern Type=STIS-PERP-TO-SLIT Purpose=MOSAIC Number Of Points=5 Point Spacing=0.2 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=0.0 Angle Between Sides= Center Pattern=true		(2)

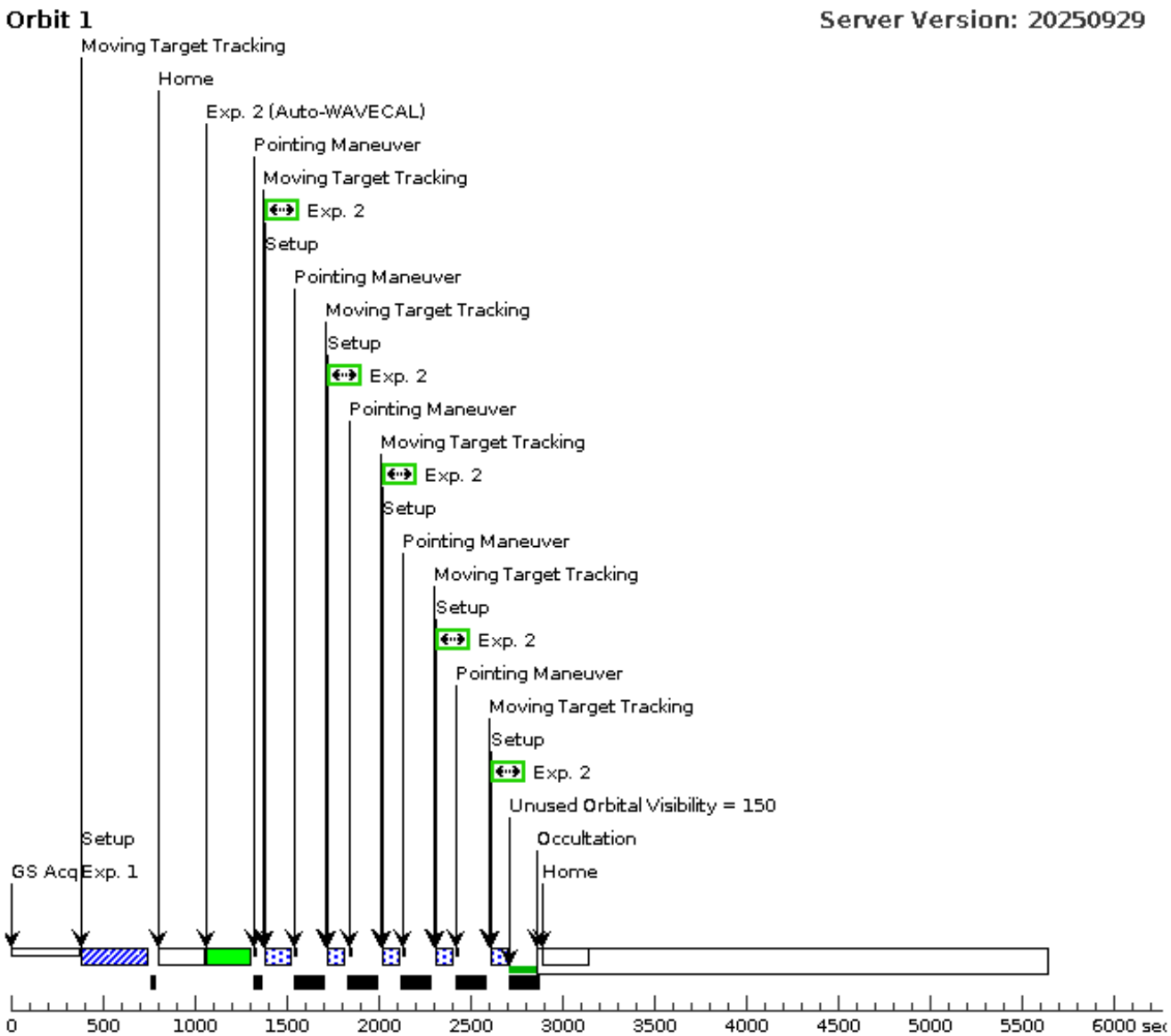
Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(143)	IO-TRANSIT-STISNUV2	STD=JUPITER	STD=IO		NOT OCC OF IO-TRANSIT-STISNUV2 BY JUPITER FROM EARTH, SEP OF IO-TRANSIT-STISNUV2 EUROPA FROM EARTH GT 10", SEP OF IO-TRANSIT-STISNUV2 GANYMEDE FROM EARTH GT 10", SEP OF IO-TRANSIT-STISNUV2 CALLISTO FROM EARTH GT 10", TRANSIT OF IO ACROSS JUPITER FROM EARTH	EARTH
Comments: Description=Io transiting Jupiter with STIS NUV spectral imaging Extended=YES						
(206)	EUROPA-ACQ3	STD=JUPITER	STD=EUROPA		NOT OCC OF EUROPA-ACQ3 BY JUPITER FROM EARTH, SEP OF EUROPA-ACQ3 IO FROM EARTH GT 50", SEP OF EUROPA-ACQ3 GANYMEDE FROM EARTH GT 10", SEP OF EUROPA-ACQ3 CALLISTO FROM EARTH GT 10", NOT TRANSIT OF EUROPA-ACQ ACROSS JUPITER FROM EARTH	EARTH
Comments: Could use Ganymede or Callisto instead If Jupiter max angular diam is ~48" during Cycle 31, and this acquisition is used for Io in eclipse/transit, need Europa to be separated from Io by at least 24", but that puts it right on Jupiter limb, so I doubled that angular distance Added observing restriction of Europa transiting Jupiter as well Duplicate of target 199 & 202. Description=For transit/eclipse observations where acquisition images of Io are not possible Extended=YES						

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	target acquisition	(206) EUROPA-ACQ3	STIS/CCD, ACQ, F28X50LP	MIRROR	ACQTYPE=DIFFUSE; CHECKBOX=21; DIFFUSE-CENTER=GEOMETRIC-CENTER		Sequence 1-2 Non-Int in IO-TRANSIT-STISNUV-S2-2 (51)	0.3 Secs (0.3 Secs) *[==>]*	*[1]*
Comments: Used the exposure time from previous programs (e.g.15419) *For Ganymede, checkbox 37 if after Nov. 18, 2024. Checkbox 35 for Oct. 21 to Nov. 18, 2024. Checkbox 33 if before Oct. 21.* *Switch to a Europa offset and relevent checkboxes instead if feasible.* *Updated Target to Europa for a TA. 202 Europa-Acq2 is like 100 but for year 2.* *For Europa, checkbox TBC if after Nov, 2025. Checkbox TBC for Sept. to Nov., 2025. Checkbox TBC if before TBC 2025.*									
2		(143) IO-TRANSIT-STISNUV2	STIS/NUV-MAMA, TIME-TAG, 52X0.5	G230M 2659 A	BUFFER-TIME=120		Sequence 1-2 Non-Int in IO-TRANSIT-STISNUV-S2-2 (51) Pattern 6, Exps 2-2 in Sequence 1-2 Non-Int in IO-TRANSIT-STISNUV-S2-2 (51) (6)	130 Secs (385 Secs) *[==>77.0 Secs (Pattern 1)]* *[==>77.0 Secs (Pattern 2)]* *[==>77.0 Secs (Pattern 3)]* *[==>77.0 Secs (Pattern 4)]* *[==>77.0 Secs (Pattern 5)]*	*[1]*

Orbit Structure



Visit

Proposal 17470, IO-TRANSIT-COSNUV-1 (52), completed Wed Dec 31 16:02:11 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: COS/NUV

Special Requirements: SCHED 100%; BETWEEN 2025.349:20:38:00 AND 2025.349:21:40:00

Comments: With TIME-TAG mode.

Diagnostics

(IO-TRANSIT-COSNUV-1 (52)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(IO-TRANSIT-COSNUV-1 (52)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(IO-TRANSIT-COSNUV-1 (52)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(IO-TRANSIT-COSNUV-1 (52)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(IO-TRANSIT-COSNUV-1 (52)) Warning (Orbit Planner): TIMETAG EXPOSURE SHORTENED TO AVOID DATA LOSS

(IO-TRANSIT-COSNUV-1 (52)) Warning (Orbit Planner): TIMETAG EXPOSURE SHORTENED TO AVOID DATA LOSS

(IO-TRANSIT-COSNUV-1 (52)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

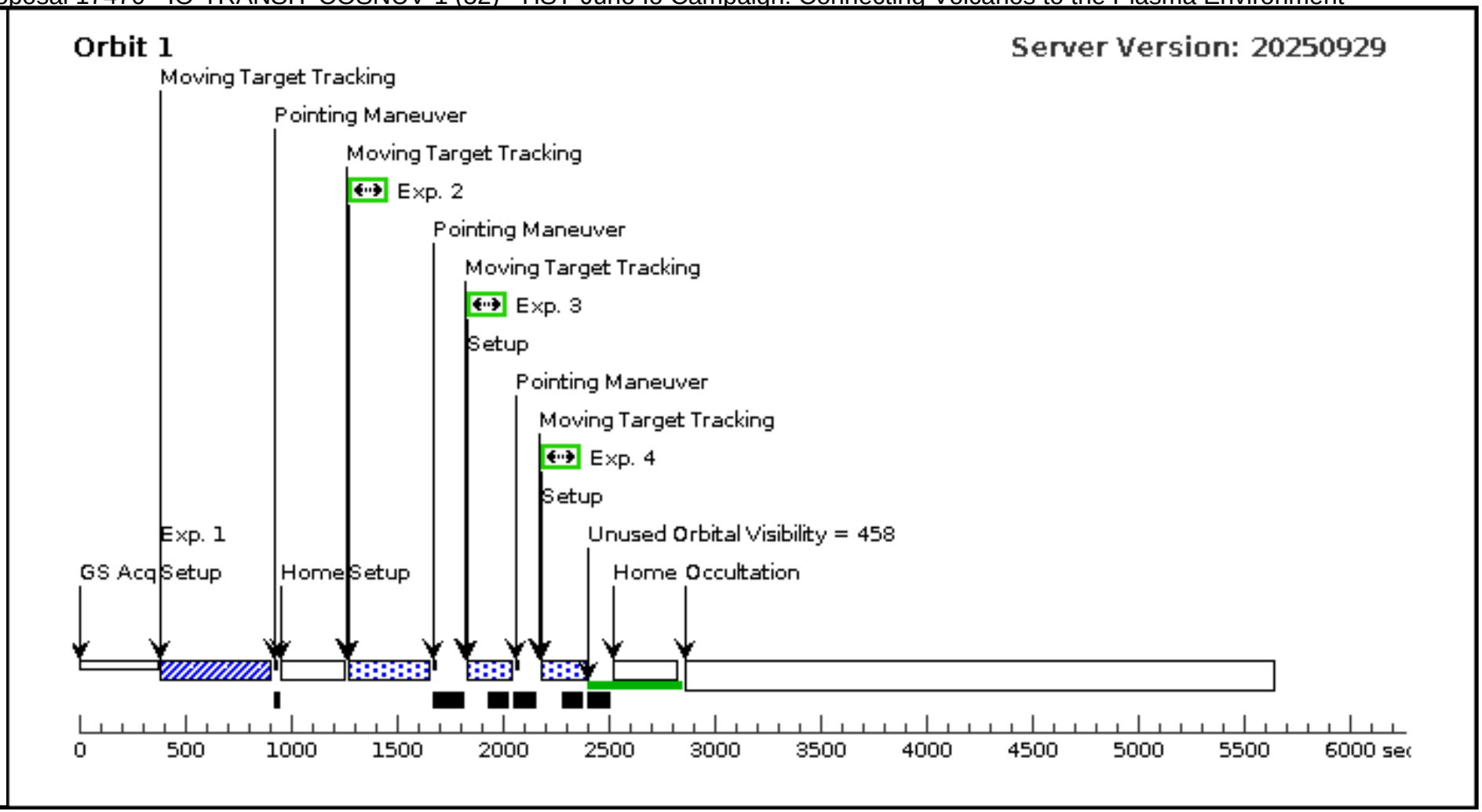
Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(44)	IO-TRANSIT-COSNUV	STD=JUPITER	STD=IO		NOT OCC OF IO-TRANSIT-COSNUV BY JUPITER FROM EARTH, SEP OF IO-TRANSIT-COSNUV EUROPA FROM EARTH GT 10", SEP OF IO-TRANSIT-COSNUV GANYMEDE FROM EARTH GT 10", SEP OF IO-TRANSIT-COSNUV CALLISTO FROM EARTH GT 10"	EARTH
Comments: Description=Io transiting Jupiter with COS NUV spectroscopy *Extended=YES*						
(206)	EUROPA-ACQ3	STD=JUPITER	STD=EUROPA		NOT OCC OF EUROPA-ACQ3 BY JUPITER FROM EARTH, SEP OF EUROPA-ACQ3 IO FROM EARTH GT 50", SEP OF EUROPA-ACQ3 GANYMEDE FROM EARTH GT 10", SEP OF EUROPA-ACQ3 CALLISTO FROM EARTH GT 10", NOT TRANSIT OF EUROPA-ACQ ACROSS JUPITER FROM EARTH	EARTH
Comments: Could use Ganymede or Callisto instead *If Jupiter max angular diam is ~48" during Cycle 31, and this acquisition is used for Io in eclipse/transit, need Europa to be separated from Io by at least 24", but that puts it right on Jupiter limb, so I doubled that angular distance* *Added observing restriction of Europa transiting Jupiter as well* *Duplicate of target 199 & 202.* *Description=For transit/eclipse observations where acquisition images of Io are not possible* *Extended=YES*						

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.sa.1010061)	(206) EUROPA-ACQ3	COS/NUV, ACQ/SEARCH, PSA	G230L 3000 A	SCAN-SIZE=3; CENTER=FLUX-WT-FLR			1 Secs (1 Secs) *[==>]*	*[1]*
Comments: Offset from europa is ok. It seemed too hard for Bill to acquire on Io instead while sunlit, shortly before transit first contact. Changed from pattern to a POSTARG series.									
2	(COS.sp.1366889)	(44) IO-TRANSIT-COSNUV	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=100; FP-POS=1	POS TARG 0.0,0.0	Sequence 2-4 Non-Int in IO-TRANSIT-COSNUV-1 (52)	138 Secs (138 Secs) *[==>]*	*[1]*
Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up. *We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments settings during the exposure. The NUV wavelengths are less critical to positioning for the gain-sag.* *First step is to stare while on Io itself.*									
3	(COS.sp.1366889)	(44) IO-TRANSIT-COSNUV	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=100; FP-POS=1	POS TARG -3.0,3.0	Sequence 2-4 Non-Int in IO-TRANSIT-COSNUV-1 (52)	500 Secs (500 Secs) *[==>]*	*[1]*
Comments: use postarg x=-3 and y=3 to offset in roughly east of Jupiter direction, assuming roll angle ~45 to Jupiter North as typical. This SO2 absorption at higher altitude away from Io is the primary objective. More like 4.2 arcsec offset with sqrt(2).									
4	(COS.sp.1366889)	(44) IO-TRANSIT-COSNUV	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=100; FP-POS=1	POS TARG -6.0,6.0	Sequence 2-4 Non-Int in IO-TRANSIT-COSNUV-1 (52)	500 Secs (500 Secs) *[==>]*	*[1]*
Comments: use postarg x=-6 and y=6 to offset in roughly east of Jupiter direction, assuming roll angle ~45 to Jupiter North as typical. The 6 arcsec location provides more of a baseline without much SO2 absorption. More like 8.5 arcsec offset with sqrt(2).									

Orbit Structure



Visit

Proposal 17470, IO-TRANSIT-COSNUV-2 (53), completed Wed Dec 31 16:02:11 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: COS/NUV

Special Requirements: SCHED 100%; BETWEEN 2025.358:16:30:00 AND 2025.358:17:30:00

Comments: With TIME-TAG mode.

With the 2nd event in the series we'll add a pre-transit observation in the preceeding orbit, without the Jupiter background Line13 pattern. (2 orbits total, unlike the 1 orbits for the others). We might trade the orbit for COSNUV-4 to do this two-orbit plan with COSNUV-3 as well, given the better exposure times and planning logic.

Diagnostics

(IO-TRANSIT-COSNUV-2 (53)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(IO-TRANSIT-COSNUV-2 (53)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(IO-TRANSIT-COSNUV-2 (53)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(IO-TRANSIT-COSNUV-2 (53)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(IO-TRANSIT-COSNUV-2 (53)) Warning (Orbit Planner): TIMETAG EXPOSURE SHORTENED TO AVOID DATA LOSS

(IO-TRANSIT-COSNUV-2 (53)) Warning (Orbit Planner): TIMETAG EXPOSURE SHORTENED TO AVOID DATA LOSS

(IO-TRANSIT-COSNUV-2 (53)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(46)	IO-TRANSIT-COSNUV2	STD=JUPITER	STD=IO		NOT OCC OF IO-TRANSIT-COSNUV2 BY JUPITER FROM EARTH, SEP OF IO-TRANSIT-COSNUV2 EUROPA FROM EARTH GT 10", SEP OF IO-TRANSIT-COSNUV2 GANYMEDE FROM EARTH GT 10", SEP OF IO-TRANSIT-COSNUV2 CALLISTO FROM EARTH GT 5", SEP OF IO JUPITER FROM EARTH LT 5"	EARTH
(206)	EUROPA-ACQ3	STD=JUPITER	STD=EUROPA		NOT OCC OF EUROPA-ACQ3 BY JUPITER FROM EARTH, SEP OF EUROPA-ACQ3 IO FROM EARTH GT 50", SEP OF EUROPA-ACQ3 GANYMEDE FROM EARTH GT 10", SEP OF EUROPA-ACQ3 CALLISTO FROM EARTH GT 10", NOT TRANSIT OF EUROPA-ACQ ACROSS JUPITER FROM EARTH	EARTH

Comments: Copy of target 44 to be used with visit 53
Description=Io transiting Jupiter with COS NUV spectroscopy
Extended=YES

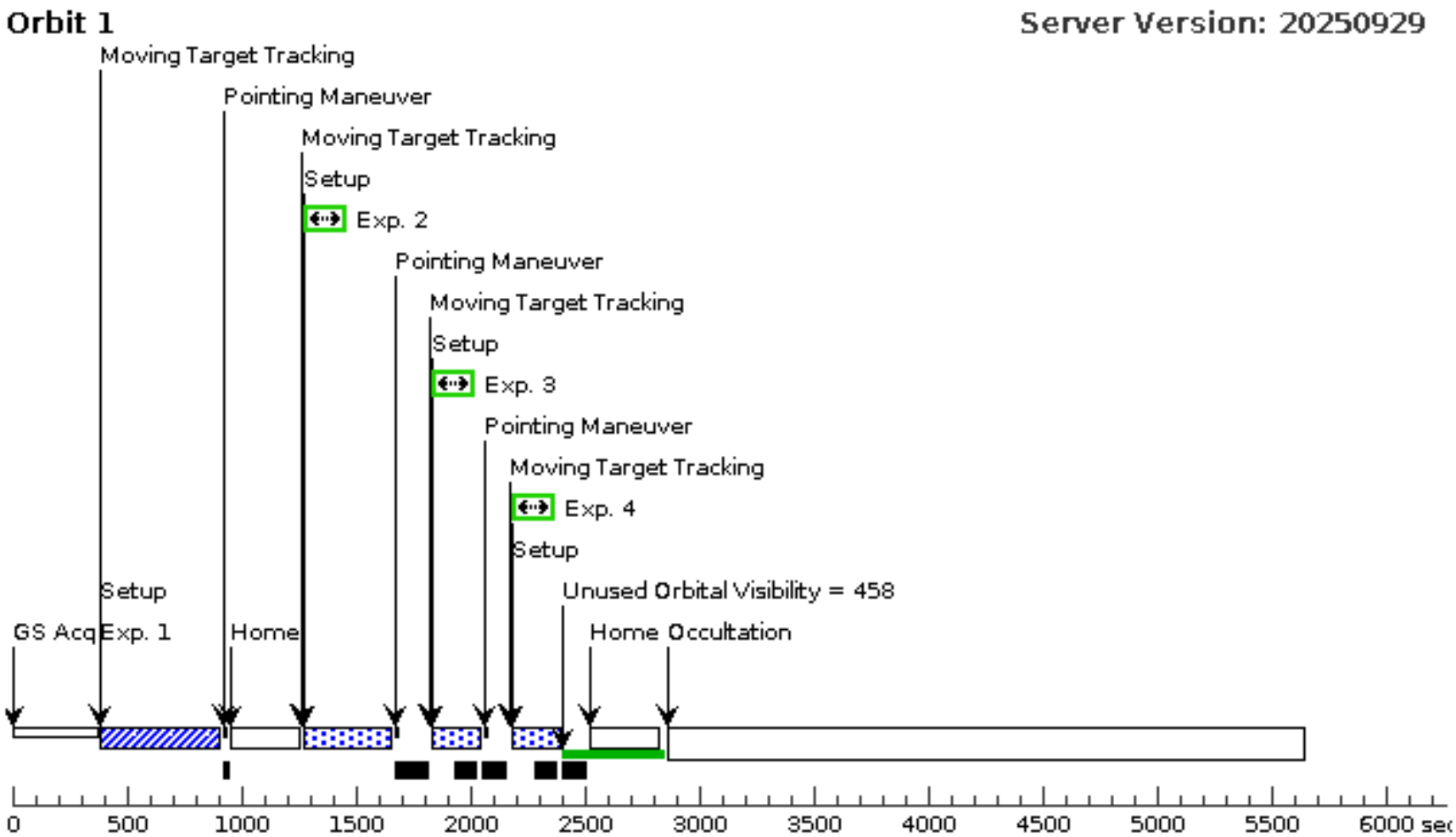
Comments: Could use Ganymede or Callisto instead
If Jupiter max angular diam is ~48" during Cycle 31, and this acquisition is used for Io in eclipse/transit, need Europa to be separated from Io by at least 24", but that puts it right on Jupiter limb, so I doubled that angular distance
Added observing restriction of Europa transiting Jupiter as well

Duplicate of target 199 & 202.
Description=For transit/eclipse observations where acquisition images of Io are not possible
Extended=YES

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.sa.1010061)	(206) EUROPA-ACQ3	COS/NUV, ACQ/SEARCH, PSA	G230L 3000 A	SCAN-SIZE=3; CENTER=FLUX-WT-FLR			1 Secs (1 Secs) *[==>]*	*[1]*
	Comments: It will probably be best to acquire on Io instead while sunlit, shortly before transit first contact. A few of the pattern exposures while still in sunlight wouldn't be terrible.								
2	(COS.sp.1366889)	(46) IO-TRANSIT-COSNUV2	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=100; FP-POS=1	POS TARG 0.0,0.0	Sequence 2-4 Non-Int in IO-TRANSIT-COSNUV-2 (53)	138 Secs (138 Secs) *[==>]*	*[1]*
	Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up. *We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments settings during the exposure. The NUV wavelengths are less critical to positioning for the gain-sag.* *First step is to stare while on Io itself.*								
3	(COS.sp.1366889)	(46) IO-TRANSIT-COSNUV2	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=100; FP-POS=1	POS TARG -3.0,3.0	Sequence 2-4 Non-Int in IO-TRANSIT-COSNUV-2 (53)	500 Secs (500 Secs) *[==>]*	*[1]*
	Comments: use postarg x=-3 and y=3 to offset in roughly east of Jupiter direction, assuming roll angle ~45 to Jupiter North as typical. This SO2 absorption at higher altitude away from Io is the primary objective. More like 4.2 arcsec offset with sqrt(2).								
4	(COS.sp.1366889)	(46) IO-TRANSIT-COSNUV2	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=100; FP-POS=1	POS TARG -6.0,6.0	Sequence 2-4 Non-Int in IO-TRANSIT-COSNUV-2 (53)	500 Secs (500 Secs) *[==>]*	*[1]*
	Comments: use postarg x=-6 and y=6 to offset in roughly east of Jupiter direction, assuming roll angle ~45 to Jupiter North as typical. The 6 arcsec location provides more of a baseline without much SO2 absorption. More like 8.5 arcsec offset with sqrt(2).								

Orbit Structure



Visit

Proposal 17470, IO-TRANSIT-COSNUV-3 (54), completed Wed Dec 31 16:02:11 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: COS/NUV

Special Requirements: SCHED 100%; BETWEEN 2025.360:10:55:00 AND 2025.360:11:55:00

Comments: With TIME-TAG mode.

Diagnostics

(IO-TRANSIT-COSNUV-3 (54)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(IO-TRANSIT-COSNUV-3 (54)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(IO-TRANSIT-COSNUV-3 (54)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(IO-TRANSIT-COSNUV-3 (54)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(IO-TRANSIT-COSNUV-3 (54)) Warning (Orbit Planner): TIMETAG EXPOSURE SHORTENED TO AVOID DATA LOSS

(IO-TRANSIT-COSNUV-3 (54)) Warning (Orbit Planner): TIMETAG EXPOSURE SHORTENED TO AVOID DATA LOSS

(IO-TRANSIT-COSNUV-3 (54)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

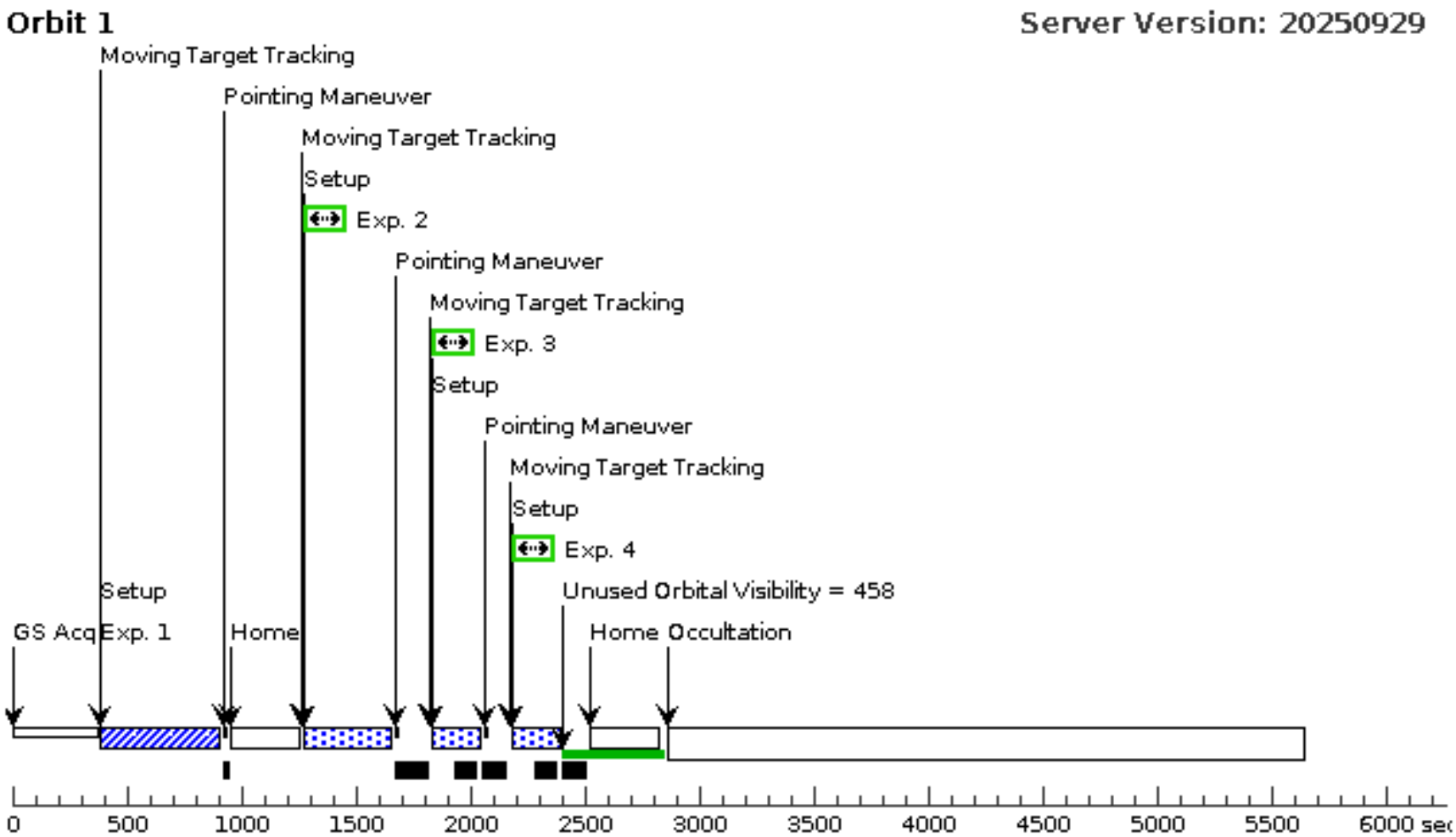
Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(46)	IO-TRANSIT-COSNUV2	STD=JUPITER	STD=IO		NOT OCC OF IO-TRANSIT-COSNUV2 BY JUPITER FROM EARTH, SEP OF IO-TRANSIT-COSNUV2 EUROPA FROM EARTH GT 10", SEP OF IO-TRANSIT-COSNUV2 GANYMEDE FROM EARTH GT 10", SEP OF IO-TRANSIT-COSNUV2 CALLISTO FROM EARTH GT 5", SEP OF IO JUPITER FROM EARTH LT 5"	EARTH
Comments: Copy of target 44 to be used with visit 53 *Description=Io transiting Jupiter with COS NUV spectroscopy* *Extended=YES*						
(206)	EUROPA-ACQ3	STD=JUPITER	STD=EUROPA		NOT OCC OF EUROPA-ACQ3 BY JUPITER FROM EARTH, SEP OF EUROPA-ACQ3 IO FROM EARTH GT 50", SEP OF EUROPA-ACQ3 GANYMEDE FROM EARTH GT 10", SEP OF EUROPA-ACQ3 CALLISTO FROM EARTH GT 10", NOT TRANSIT OF EUROPA-ACQ ACROSS JUPITER FROM EARTH	EARTH
Comments: Could use Ganymede or Callisto instead *If Jupiter max angular diam is ~48" during Cycle 31, and this acquisition is used for Io in eclipse/transit, need Europa to be separated from Io by at least 24", but that puts it right on Jupiter limb, so I doubled that angular distance* *Added observing restriction of Europa transiting Jupiter as well* *Duplicate of target 199 & 202.* *Description=For transit/eclipse observations where acquisition images of Io are not possible* *Extended=YES*						

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.sa.1010061)	(206) EUROPA-ACQ3	COS/NUV, ACQ/SEARCH, PSA	G230L 3000 A	SCAN-SIZE=3; CENTER=FLUX-WT-FLR			1 Secs (1 Secs) *[==>]*	*[1]*
	Comments: It will probably be best to acquire on Io instead while sunlit, shortly before transit first contact. A few of the pattern exposures while still in sunlight wouldn't be terrible.								
2	(COS.sp.1366889)	(46) IO-TRANSIT-COSNUV2	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=100; FP-POS=1	POS TARG 0,0	Sequence 2-4 Non-Int in IO-TRANSIT-COSNUV-3 (54)	138 Secs (138 Secs) *[==>]*	*[1]*
	Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up. *We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments settings during the exposure. The NUV wavelengths are less critical to positioning for the gain-sag.* *First step is to stare while on Io itself.*								
3	(COS.sp.1366889)	(46) IO-TRANSIT-COSNUV2	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=100; FP-POS=1	POS TARG 0,3.0	Sequence 2-4 Non-Int in IO-TRANSIT-COSNUV-3 (54)	500 Secs (500 Secs) *[==>]*	*[1]*
	Comments: use postarg x=-3 and y=3 to offset in roughly east of Jupiter direction, assuming roll angle ~45 to Jupiter North as typical. This SO2 absorption at higher altitude away from Io is the primary objective. More like 4.2 arcsec offset with sqrt(2).								
4	(COS.sp.1366889)	(46) IO-TRANSIT-COSNUV2	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=100; FP-POS=1	POS TARG 0,6.0	Sequence 2-4 Non-Int in IO-TRANSIT-COSNUV-3 (54)	500 Secs (500 Secs) *[==>]*	*[1]*
	Comments: use postarg x=-6 and y=6 to offset in roughly east of Jupiter direction, assuming roll angle ~45 to Jupiter North as typical. The 6 arcsec location provides more of a baseline without much SO2 absorption. More like 8.5 arcsec offset with sqrt(2).								

Orbit Structure



Visit

Proposal 17470, IO-TRANSIT-COSNUV-4 (55), implementation Wed Dec 31 16:02:11 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: COS/NUV

Special Requirements: SCHED 100%

Comments: With TIME-TAG mode.

Diagnostics

(IO-TRANSIT-COSNUV-4 (55)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(IO-TRANSIT-COSNUV-4 (55)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(IO-TRANSIT-COSNUV-4 (55)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(IO-TRANSIT-COSNUV-4 (55)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(IO-TRANSIT-COSNUV-4 (55)) Warning (Orbit Planner): TIMETAG EXPOSURE SHORTENED TO AVOID DATA LOSS

(IO-TRANSIT-COSNUV-4 (55)) Warning (Orbit Planner): TIMETAG EXPOSURE SHORTENED TO AVOID DATA LOSS

(IO-TRANSIT-COSNUV-4 (55)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

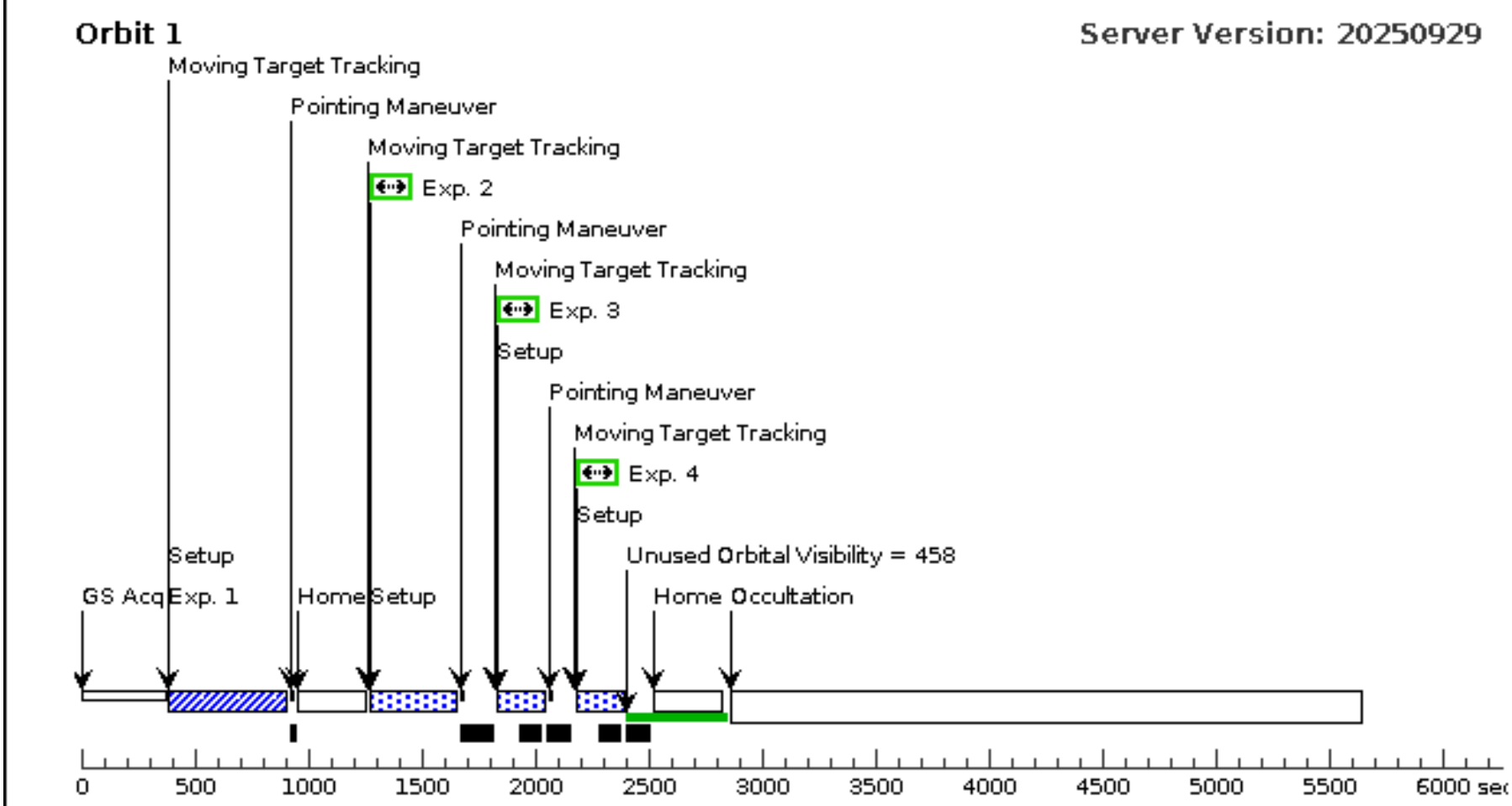
Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(44)	IO-TRANSIT-COSNUV	STD=JUPITER	STD=IO		NOT OCC OF IO-TRANSIT-COSNUV BY JUPITER FROM EARTH, SEP OF IO-TRANSIT-COSNUV EUROPA FROM EARTH GT 10", SEP OF IO-TRANSIT-COSNUV GANYMEDE FROM EARTH GT 10", SEP OF IO-TRANSIT-COSNUV CALLISTO FROM EARTH GT 10"	EARTH
Comments: Description=Io transiting Jupiter with COS NUV spectroscopy *Extended=YES*						
(206)	EUROPA-ACQ3	STD=JUPITER	STD=EUROPA		NOT OCC OF EUROPA-ACQ3 BY JUPITER FROM EARTH, SEP OF EUROPA-ACQ3 IO FROM EARTH GT 50", SEP OF EUROPA-ACQ3 GANYMEDE FROM EARTH GT 10", SEP OF EUROPA-ACQ3 CALLISTO FROM EARTH GT 10", NOT TRANSIT OF EUROPA-ACQ ACROSS JUPITER FROM EARTH	EARTH
Comments: Could use Ganymede or Callisto instead *If Jupiter max angular diam is ~48" during Cycle 31, and this acquisition is used for Io in eclipse/transit, need Europa to be separated from Io by at least 24", but that puts it right on Jupiter limb, so I doubled that angular distance* *Added observing restriction of Europa transiting Jupiter as well* *Duplicate of target 199 & 202.* *Description=For transit/eclipse observations where acquisition images of Io are not possible* *Extended=YES*						

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.sa.1010061)	(206) EUROPA-ACQ3	COS/NUV, ACQ/SEARCH, PSA	G230L 3000 A	SCAN-SIZE=3; CENTER=FLUX-WT-FLR			1 Secs (1 Secs) *[==>]*	***[1]***
	Comments: It will probably be best to acquire on Io instead while sunlit, shortly before transit first contact. A few of the pattern exposures while still in sunlight wouldn't be terrible.								
2	(COS.sp.1366889)	(44) IO-TRANSIT-COSNUV	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=100; FP-POS=1	POS TARG 0.0,0.0	Sequence 2-4 Non-Int in IO-TRANSIT-COSNUV-4 (55)	138 Secs (138 Secs) *[==>]*	***[1]***
	Comments: We prefer to have one long TIME-TAG exposure and simply move the pointing during the exposure, but I didn't see a good way to set this up. *We do not vary FP-POS because we are looking for time variability and thus prefer to not change the instruments settings during the exposure. The NUV wavelengths are less critical to positioning for the gain-sag.* *First step is to stare while on Io itself.*								
3	(COS.sp.1366889)	(44) IO-TRANSIT-COSNUV	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=100; FP-POS=1	POS TARG -3.0,0	Sequence 2-4 Non-Int in IO-TRANSIT-COSNUV-4 (55)	500 Secs (500 Secs) *[==>]*	***[1]***
	Comments: use postarg x=-3 and y=3 to offset in roughly east of Jupiter direction, assuming roll angle ~45 to Jupiter North as typical. This SO2 absorption at higher altitude away from Io is the primary objective. More like 4.2 arcsec offset with sqrt(2).								
4	(COS.sp.1366889)	(44) IO-TRANSIT-COSNUV	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=100; FP-POS=1	POS TARG -6.0,0.0	Sequence 2-4 Non-Int in IO-TRANSIT-COSNUV-4 (55)	500 Secs (500 Secs) *[==>]*	***[1]***
	Comments: use postarg x=-6 and y=6 to offset in roughly east of Jupiter direction, assuming roll angle ~45 to Jupiter North as typical. The 6 arcsec location provides more of a baseline without much SO2 absorption. More like 8.5 arcsec offset with sqrt(2).								

Orbit Structure



Visit

Proposal 17470, IO-ECLIPSE-VIS-LOKI-STARE (60), completed Wed Dec 31 16:02:11 GMT 2025

Diagnostic Status: Informational

Scientific Instruments: STIS/CCD

Special Requirements: SCHED 100%; BETWEEN 12-SEP-2024:13:15:00 AND 12-SEP-2024:14:15:00

Diagnostics

(IO-ECLIPSE-VIS-LOKI-STARE (60)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(60)	IO-ECLIPSE-VIS-LOKI-STARE	STD=JUPITER	STD=IO	TYPE=PGRAPHIC,LONG=308.79,LAT=13.01	ECL U FULL OF IO-ECLIPSE-VIS-LOKI-STARE BY JUPITER FROM EARTH, NOT OCC OF IO-ECLIPSE-VIS-LOKI-STARE BY IO FROM EARTH, NOT OCC OF IO-ECLIPSE-VIS-LOKI-STARE BY JUPITER FROM EARTH, SEP OF IO-ECLIPSE-VIS-LOKI-STARE EUROPA FROM EARTH GT 10", SEP OF IO-ECLIPSE-VIS-LOKI-STARE GANYMEDE FROM EARTH GT 10", SEP OF IO-ECLIPSE-VIS-LOKI-STARE CALLISTO FROM EARTH GT 10"	EARTH

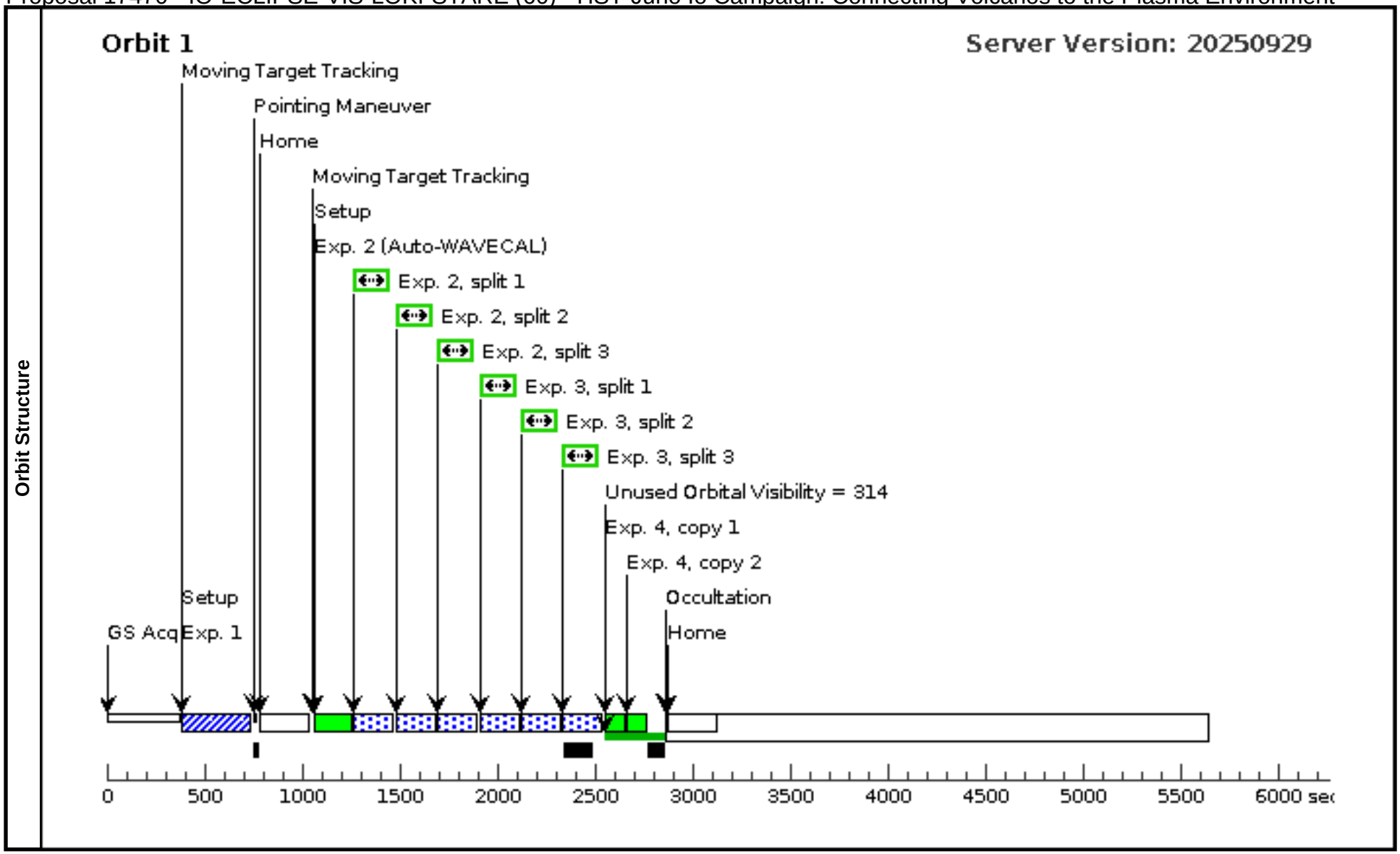
Comments: Target OLG window is determined based on:
-1.769 day orbital period of Io
-umbral eclipse begins at TBC +/-0.1 degrees OLG measured from Sun in Aug 2024 - Sep 2024
-3000s exposure time available in the second orbit.
-want to get all of Io in eclipse
Override default SEP between Io and Jupiter to allow observation in/near eclipse
Description=Io in eclipse by Jupiter with STIS VIS spectral imaging
Extended=YES

(100)	EUROPA-ACQ	STD=JUPITER	STD=EUROPA		NOT OCC OF EUROPA-ACQ BY JUPITER FROM EARTH, SEP OF EUROPA-ACQ IO FROM EARTH GT 50", SEP OF EUROPA-ACQ GANYMEDE FROM EARTH GT 10", SEP OF EUROPA-ACQ CALLISTO FROM EARTH GT 10", NOT TRANSIT OF EUROPA-ACQ ACROSS JUPITER FROM EARTH	EARTH

Comments: Could use Ganymede or Callisto instead
If Jupiter max angular diam is ~48" during Cycle 31, and this acquisition is used for Io in eclipse/transit, need Europa to be separated from Io by at least 24", but that puts it right on Jupiter limb, so I doubled that angular distance
Added observing restriction of Europa transiting Jupiter as well
Description=For transit/eclipse observations where acquisition images of Io are not possible
Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Acquisition	(100) EUROPA-ACQ	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=19; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER			0.3 Secs (0.3 Secs) *[==>]*	*[1]*
Comments: Checkbox size may need to be adjusted to expected size of Europa. Europa is 17.4-17.5 pixels on Sept. 9-14									
2		(60) IO-ECLIPSE-VIS-LOKI-STARE	STIS/CCD, ACCUM, 52X0.1E1	G750L 7751 A	GAIN=1; CR-SPLIT=3			507 Secs (507 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	*[1]*
3		(60) IO-ECLIPSE-VIS-LOKI-STARE	STIS/CCD, ACCUM, 52X0.1E1	G750L 7751 A	CR-SPLIT=3; GAIN=1			507 Secs (507 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]*	*[1]*
4	Fringe flat for G750L	CCDFLAT	STIS/CCD, ACCUM, 52X0.1	G750L 7751 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	*[1]*
Comments: Added a wavecal and a Fringe flat.									


Orbit Structure
Orbit 1
Server Version: 20250929
Moving Target Tracking
Pointing Maneuver
Home
Moving Target Tracking
Setup
Exp. 2 (Auto-WAVECAL)
Exp. 2, split 1
Exp. 2, split 2
Exp. 2, split 3
Exp. 3, split 1
Exp. 3, split 2
Exp. 3, split 3
Unused Orbital Visibility = 314
Exp. 4, copy 1
Exp. 4, copy 2
Occultation
Home
Setup
GS Acq
Exp. 1
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17470, IO-ECLIPSE-VIS-LOKI-SCAN (61), completed Wed Dec 31 16:02:11 GMT 2025

Diagnostic Status: Informational

Scientific Instruments: STIS/CCD

Special Requirements: SCHED 100%

Comments: Added a fringe flat, but skip the wavecal (visit 60 has a wavecal for cross-reference).

Diagnostics

(IO-ECLIPSE-VIS-LOKI-SCAN (61)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(10)	Pattern Type=STIS-PERP-TO-SLIT Purpose=MOSAIC Number Of Points=3 Point Spacing=0.1 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=0.0 Angle Between Sides= Center Pattern=false		(2)

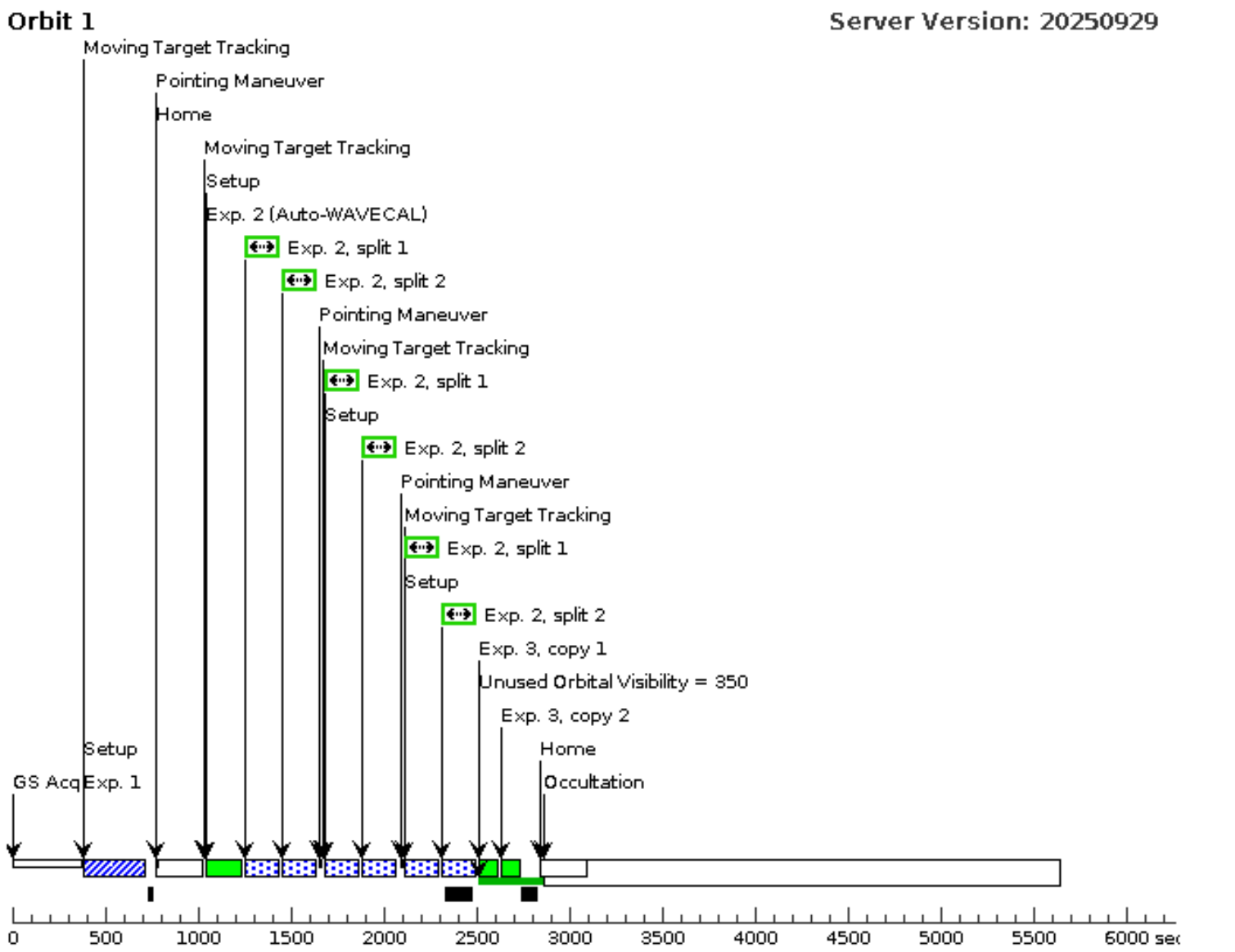
Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(61)	IO-ECLIPSE-VIS-LOKI-SCAN	STD=JUPITER	STD=IO	TYPE=PGRAPHIC,LONG=308.79,LAT=13.01	ECL U FULL OF IO-ECLIPSE-VIS-LOKI-SCAN BY JUPITER FROM EARTH, NOT OCC OF IO-ECLIPSE-VIS-LOKI-SCAN BY IO FROM EARTH, NOT OCC OF IO-ECLIPSE-VIS-LOKI-SCAN BY JUPITER FROM EARTH, SEP OF IO-ECLIPSE-VIS-LOKI-SCAN EUROPA FROM EARTH GT 10", SEP OF IO-ECLIPSE-VIS-LOKI-SCAN GANYMEDE FROM EARTH GT 10", SEP OF IO-ECLIPSE-VIS-LOKI-SCAN CALLISTO FROM EARTH GT 10"	EARTH
Comments: Target OLG window is determined based on: -1.769 day orbital period of Io -umbral eclipse begins at TBC +/-0.1 degrees OLG measured from Sun in Aug 2024 - Sep 2024 -3000s exposure time available in the second orbit. -want to get all of Io in eclipse Override default SEP between Io and Jupiter to allow observation in/near eclipse Description=Io in eclipse by Jupiter with STIS VIS spectral imaging Extended=YES						
(202)	EUROPA-ACQ2	STD=JUPITER	STD=EUROPA		NOT OCC OF EUROPA-ACQ2 BY JUPITER FROM EARTH, SEP OF EUROPA-ACQ2 IO FROM EARTH GT 50", SEP OF EUROPA-ACQ2 GANYMEDE FROM EARTH GT 10", SEP OF EUROPA-ACQ2 CALLISTO FROM EARTH GT 10", NOT TRANSIT OF EUROPA-ACQ ACROSS JUPITER FROM EARTH	EARTH
Comments: Could use Ganymede or Callisto instead If Jupiter max angular diam is ~48" during Cycle 31, and this acquisition is used for Io in eclipse/transit, need Europa to be separated from Io by at least 24", but that puts it right on Jupiter limb, so I doubled that angular distance Added observing restriction of Europa transiting Jupiter as well Duplicate of target 100. Description=For transit/eclipse observations where acquisition images of Io are not possible Extended=YES						

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Acquisition	(202) EUROPA-ACQ2	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=17; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER		Sequence 1-3 Non-Int in IO-ECLIPSE-VIS-LOKI-SCAN (61)	0.3 Secs (0.3 Secs) *[==>]*	***[1]***
Comments: Checkbox size may need to be adjusted to expected size of Europa. Europa is 16.68 pixels on Oct. 12.									
2		(61) IO-ECLIPSE-VIS-LOKI-SCAN	STIS/CCD, ACCUM, 52X0.1E1	G750L 7751 A	GAIN=1; CR-SPLIT=2		Sequence 1-3 Non-Int in IO-ECLIPSE-VIS-LOKI-SCAN (61) Pattern 10, Exps 2-2 in Sequence 1-3 Non-Int in IO-ECLIPSE-VIS-LOKI-SCAN (61) (10)	304 Secs (912 Secs) *[==>(Pattern 1, Split 1)]* *[==>(Pattern 1, Split 2)]* *[==>(Pattern 2, Split 1)]* *[==>(Pattern 2, Split 2)]* *[==>(Pattern 3, Split 1)]* *[==>(Pattern 3, Split 2)]*	***[1]***
3	Fringe flat for G750L	CCDFLAT	STIS/CCD, ACCUM, 52X0.1	G750L 7751 A			Sequence 1-3 Non-Int in IO-ECLIPSE-VIS-LOKI-SCAN (61)	*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***

Orbit Structure



Visit

Proposal 17470, IO-ECLIPSE-VIS-S2 (62), completed Wed Dec 31 16:02:11 GMT 2025

Diagnostic Status: Informational

Scientific Instruments: STIS/CCD

Special Requirements: SCHED 100%

Diagnostics

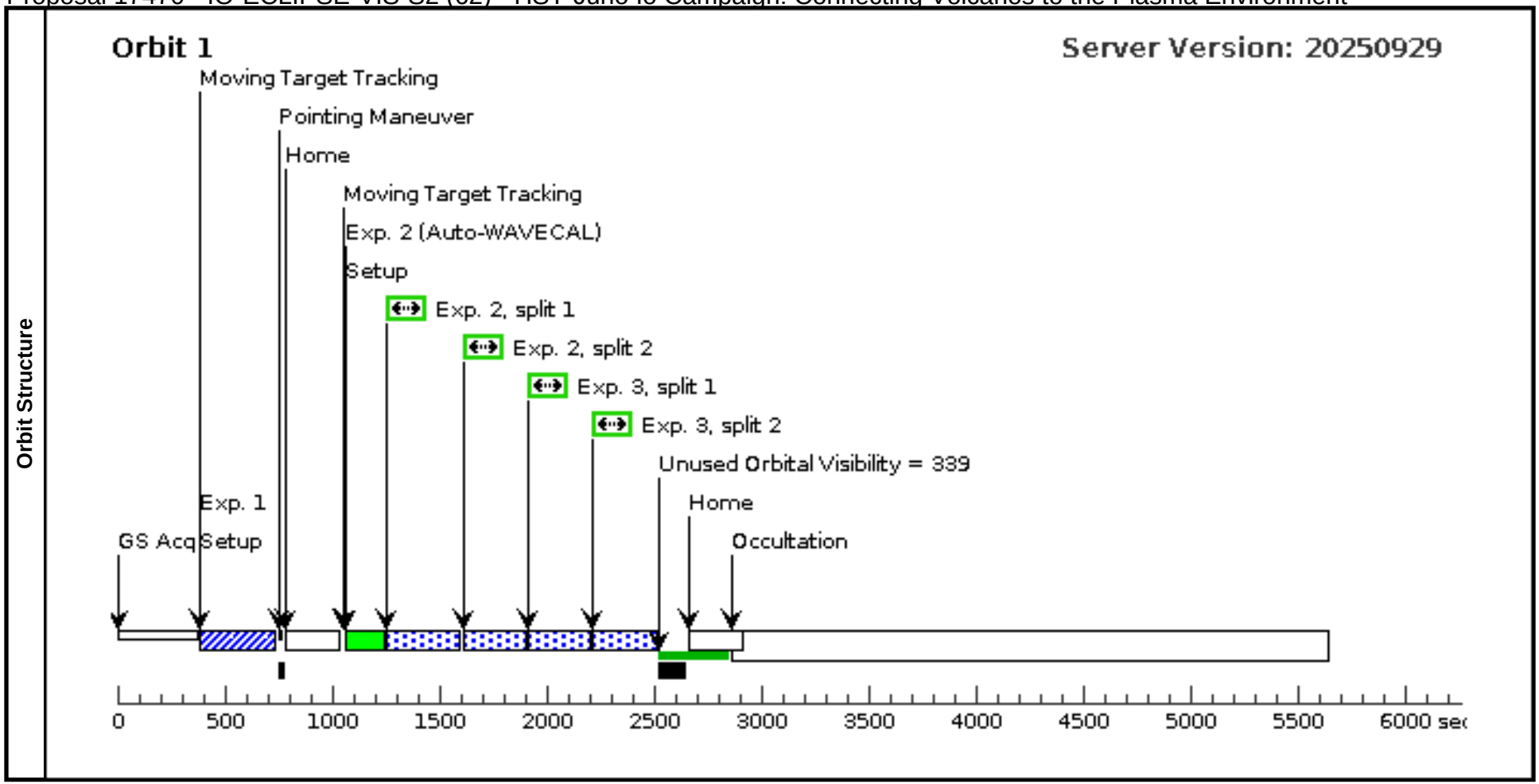
(IO-ECLIPSE-VIS-S2 (62)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(62)	IO-ECLIPSE-VIS-S2	STD=JUPITER	STD=IO		NOT OCC OF IO-ECLIPSE-VIS-S2 BY JUPITER FROM EARTH, SEP OF IO-ECLIPSE-VIS-S2 EUROPA FROM EARTH GT 10", SEP OF IO-ECLIPSE-VIS-S2 GANYMEDE FROM EARTH GT 10", SEP OF IO-ECLIPSE-VIS-S2 CALLISTO FROM EARTH GT 10", ECL U FULL OF IO-ECLIPSE-VIS-S2 BY JUPITER FROM EARTH	EARTH
Comments: Description=Io in eclipse by Jupiter with STIS VIS spectral imaging Extended=YES						
(100)	EUROPA-ACQ	STD=JUPITER	STD=EUROPA		NOT OCC OF EUROPA-ACQ BY JUPITER FROM EARTH, SEP OF EUROPA-ACQ IO FROM EARTH GT 50", SEP OF EUROPA-ACQ GANYMEDE FROM EARTH GT 10", SEP OF EUROPA-ACQ CALLISTO FROM EARTH GT 10", NOT TRANSIT OF EUROPA-ACQ ACROSS JUPITER FROM EARTH	EARTH
Comments: Could use Ganymede or Callisto instead If Jupiter max angular diam is ~48" during Cycle 31, and this acquisition is used for Io in eclipse/transit, need Europa to be separated from Io by at least 24", but that puts it right on Jupiter limb, so I doubled that angular distance Added observing restriction of Europa transiting Jupiter as well Description=For transit/eclipse observations where acquisition images of Io are not possible Extended=YES						

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Acquisition	(100) EUROPA-ACQ	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=19; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER			0.3 Secs (0.3 Secs)	
								[==>]	***[1]***
Comments: Checkbox size may need to be adjusted to expected size of Europa. Europa is 17.4-17.5 pixels on Sept. 9-14									
2		(62) IO-ECLIPSE-VIS-S2	STIS/CCD, ACCUM, 52X2	G430M 4706 A	GAIN=1; CR-SPLIT=2			520 Secs (520 Secs)	
								[==>(Split 1)] *[==>(Split 2)]*	***[1]***
3		(62) IO-ECLIPSE-VIS-S2	STIS/CCD, ACCUM, 52X2	G430M 4706 A	GAIN=1; CR-SPLIT=2			520 Secs (520 Secs)	
								[==>(Split 1)] *[==>(Split 2)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20250929
Moving Target Tracking
Pointing Maneuver
Home
Moving Target Tracking
Exp. 2 (Auto-WAVECAL)
Setup
Exp. 2, split 1
Exp. 2, split 2
Exp. 3, split 1
Exp. 3, split 2
Unused Orbital Visibility = 339
Exp. 1
Home
GS Acq
Setup
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17470, IO-ECLIPSE-VIS-NA-SCAN (63), completed Wed Dec 31 16:02:11 GMT 2025

Diagnostic Status: Informational

Scientific Instruments: STIS/CCD

Special Requirements: SCHED 100%; BETWEEN 2025.324:03:45:00 AND 2025.324:05:15:00

Diagnostics

(IO-ECLIPSE-VIS-NA-SCAN (63)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(7)	Pattern Type=STIS-PERP-TO-SLIT Purpose=MOSAIC Number Of Points=3 Point Spacing=0.5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=0.0 Angle Between Sides= Center Pattern=true		(2)

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(63)	IO-ECLIPSE-VIS-NA-SCAN	STD=JUPITER	STD=IO		NOT OCC OF IO-ECLIPSE-VIS-NA-SCAN BY JUPITER FROM EARTH, SEP OF IO-ECLIPSE-VIS-NA-SCAN EUROPA FROM EARTH GT 10", SEP OF IO-ECLIPSE-VIS-NA-SCAN GANYMEDE FROM EARTH GT 10", SEP OF IO-ECLIPSE-VIS-NA-SCAN CALLISTO FROM EARTH GT 10", ECL U FULL OF IO-ECLIPSE-VIS-NA-SCAN BY JUPITER FROM EARTH	EARTH
(202)	EUROPA-ACQ2	STD=JUPITER	STD=EUROPA		NOT OCC OF EUROPA-ACQ2 BY JUPITER FROM EARTH, SEP OF EUROPA-ACQ2 IO FROM EARTH GT 50", SEP OF EUROPA-ACQ2 GANYMEDE FROM EARTH GT 10", SEP OF EUROPA-ACQ2 CALLISTO FROM EARTH GT 10", NOT TRANSIT OF EUROPA-ACQ ACROSS JUPITER FROM EARTH	EARTH

Comments: Description=Io in eclipse by Jupiter with STIS VIS spectral imaging
Extended=YES

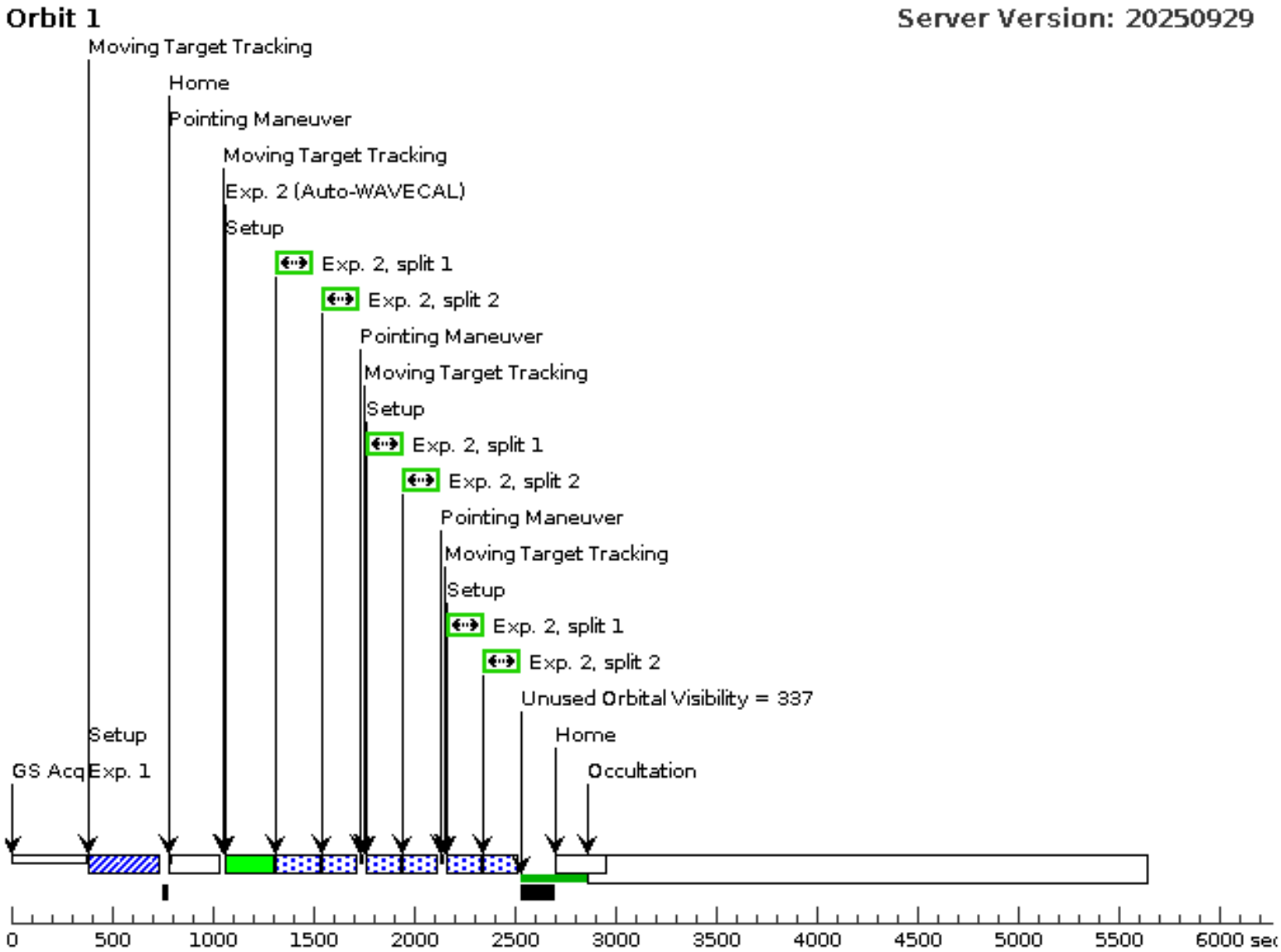
Comments: Could use Ganymede or Callisto instead
If Jupiter max angular diam is ~48" during Cycle 31, and this acquisition is used for Io in eclipse/transit, need Europa to be separated from Io by at least 24", but that puts it right on Jupiter limb, so I doubled that angular distance
Added observing restriction of Europa transiting Jupiter as well

Duplicate of target 100.
Description=For transit/eclipse observations where acquisition images of Io are not possible
Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Acquisition	(202) EUROPA-ACQ2	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=19; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER		Sequence 1-2 Non-Int in IO-ECLIPSE-VIS-NA-SCAN (63)	0.3 Secs (0.3 Secs) *[==>]*	***[1]***
Comments: Checkbox size may need to be adjusted to expected size of Europa. Europa is 17.4-17.5 pixels on Sept. 9-14									
2		(63) IO-ECLIPSE-VIS-NA-SCAN	STIS/CCD, ACCUM, 52X0.5E1	G750M 6094 A	GAIN=1; CR-SPLIT=2		Sequence 1-2 Non-Int in IO-ECLIPSE-VIS-NA-SCAN (63) Pattern 7, Exps 2-2 in Sequence 1-2 Non-Int in IO-ECLIPSE-VIS-NA-SCAN (63) (7)	270 Secs (810 Secs) *[==>(Pattern 1, Split 1)]* *[==>(Pattern 1, Split 2)]* *[==>(Pattern 2, Split 1)]* *[==>(Pattern 2, Split 2)]* *[==>(Pattern 3, Split 1)]* *[==>(Pattern 3, Split 2)]*	***[1]***

Orbit Structure



Visit

Proposal 17470, IO-ECLIPSE-VIS-HALPHA (64), completed Wed Dec 31 16:02:11 GMT 2025

Diagnostic Status: Informational

Scientific Instruments: STIS/CCD

Special Requirements: SCHED 100%; BETWEEN 2025.318:20:40:00 AND 2025.318:22:40:00

Diagnostics

(IO-ECLIPSE-VIS-HALPHA (64)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

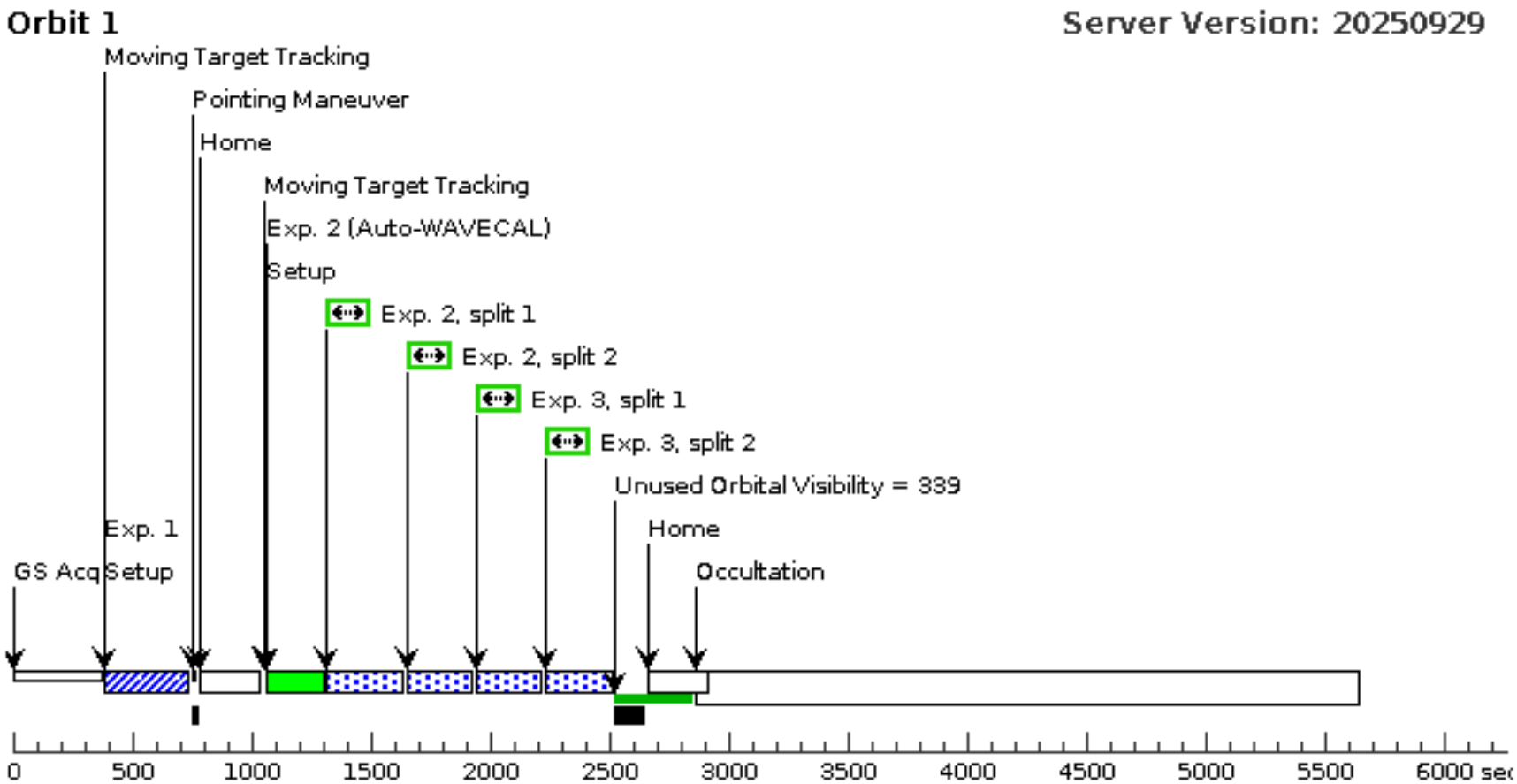
Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(64)	IO-ECLIPSE-VIS-HALPHA	STD=JUPITER	STD=IO		NOT OCC OF IO-ECLIPSE-VIS-HALPHA BY JUPITER FROM EARTH, SEP OF IO-ECLIPSE-VIS-HALPHA EUROPA FROM EARTH GT 10", SEP OF IO-ECLIPSE-VIS-HALPHA GANYMEDE FROM EARTH GT 10", SEP OF IO-ECLIPSE-VIS-HALPHA CALLISTO FROM EARTH GT 10", ECL U FULL OF IO-ECLIPSE-VIS-HALPHA BY JUPITER FROM EARTH	EARTH
Comments: Target OLG window is determined based on: -1.769 day orbital period of Io -umbral eclipse begins at TBC +/-0.1 degrees OLG measured from Sun in Aug 2024 - Sep 2024 -3000s exposure time available in the second orbit. -want to get all of Io in eclipse Override default SEP between Io and Jupiter to allow observation in/near eclipse Description=Io in eclipse by Jupiter with STIS VIS spectral imaging Extended=YES						
(202)	EUROPA-ACQ2	STD=JUPITER	STD=EUROPA		NOT OCC OF EUROPA-ACQ2 BY JUPITER FROM EARTH, SEP OF EUROPA-ACQ2 IO FROM EARTH GT 50", SEP OF EUROPA-ACQ2 GANYMEDE FROM EARTH GT 10", SEP OF EUROPA-ACQ2 CALLISTO FROM EARTH GT 10", NOT TRANSIT OF EUROPA-ACQ ACROSS JUPITER FROM EARTH	EARTH
Comments: Could use Ganymede or Callisto instead If Jupiter max angular diam is ~48" during Cycle 31, and this acquisition is used for Io in eclipse/transit, need Europa to be separated from Io by at least 24", but that puts it right on Jupiter limb, so I doubled that angular distance Added observing restriction of Europa transiting Jupiter as well Duplicate of target 100. Description=For transit/eclipse observations where acquisition images of Io are not possible Extended=YES						

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Acquisition	(202) EUROPA-ACQ2	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=19; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER			0.3 Secs (0.3 Secs) *[==>]*	*[1]*
Comments: Checkbox size may need to be adjusted to expected size of Europa. Europa is 17.4-17.5 pixels on Sept. 9-14									
2		(64) IO-ECLIPSE-VIS-HALPHA	STIS/CCD, ACCUM, 52X2E1	G750M 6768 A	GAIN=1; CR-SPLIT=2			490 Secs (490 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	*[1]*
3		(64) IO-ECLIPSE-VIS-HALPHA	STIS/CCD, ACCUM, 52X2E1	G750M 6768 A	GAIN=1; CR-SPLIT=2			490 Secs (490 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	*[1]*

Orbit Structure



Visit

Proposal 17470, IO-ECLIPSE-VIS-K (65), completed Wed Dec 31 16:02:11 GMT 2025

Diagnostic Status: Informational

Scientific Instruments: STIS/CCD

Special Requirements: SCHED 100%; BETWEEN 2025.325:22:14:00 AND 2025.325:23:14:00

Diagnostics

(IO-ECLIPSE-VIS-K (65)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

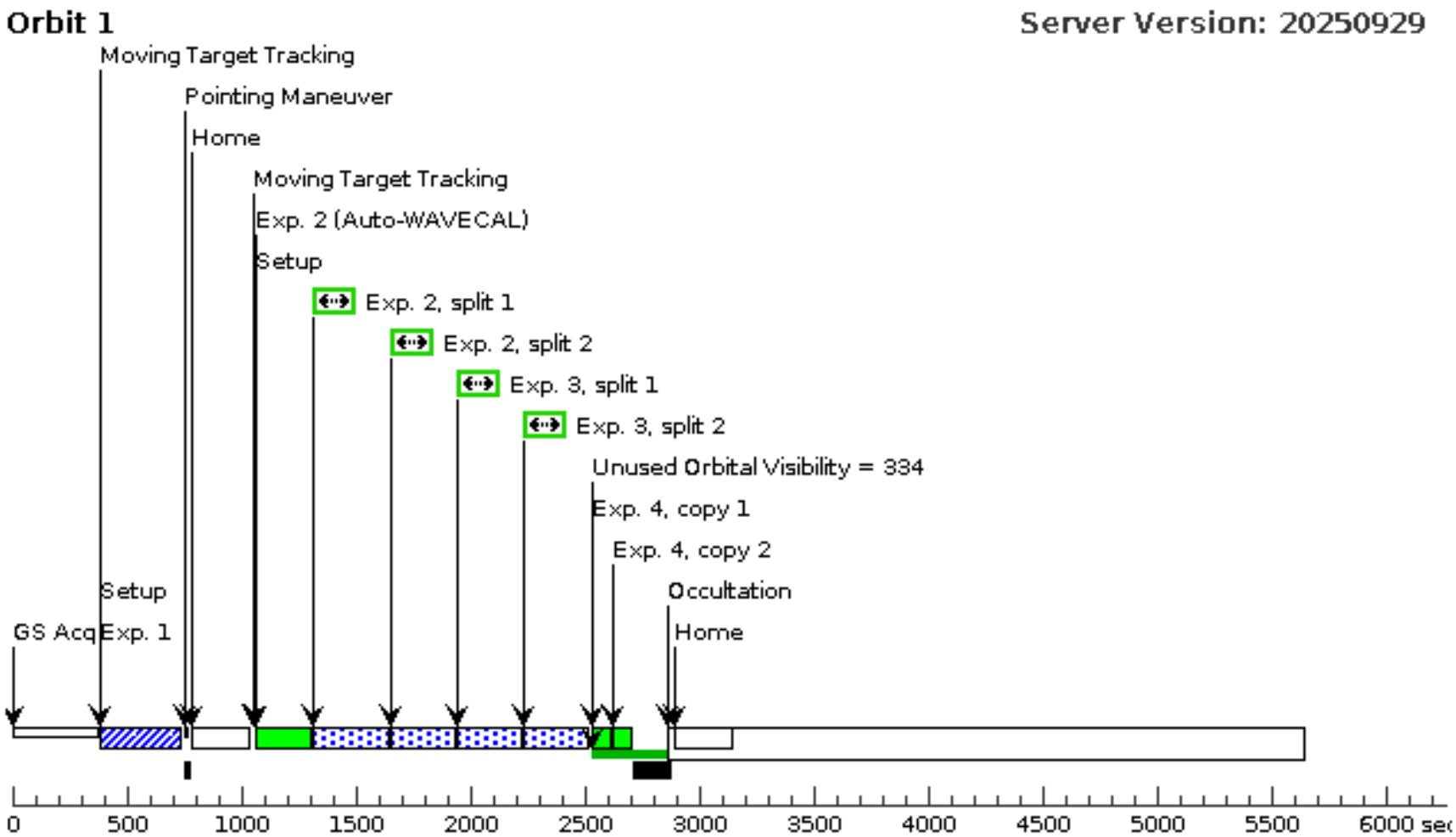
Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(65)	IO-ECLIPSE-VIS-K	STD=JUPITER	STD=IO		NOT OCC OF IO-ECLIPSE-VIS-K BY JUPITER FROM EARTH, SEP OF IO-ECLIPSE-VIS-K EUROPA FROM EARTH GT 10", SEP OF IO-ECLIPSE-VIS-K GANYMEDE FROM EARTH GT 10", SEP OF IO-ECLIPSE-VIS-K CALLISTO FROM EARTH GT 10", ECL U FULL OF IO-ECLIPSE-VIS-K BY JUPITER FROM EARTH	EARTH
Comments: Description=Io in eclipse by Jupiter with STIS VIS spectral imaging Extended=YES						
(202)	EUROPA-ACQ2	STD=JUPITER	STD=EUROPA		NOT OCC OF EUROPA-ACQ2 BY JUPITER FROM EARTH, SEP OF EUROPA-ACQ2 IO FROM EARTH GT 50", SEP OF EUROPA-ACQ2 GANYMEDE FROM EARTH GT 10", SEP OF EUROPA-ACQ2 CALLISTO FROM EARTH GT 10", NOT TRANSIT OF EUROPA-ACQ ACROSS JUPITER FROM EARTH	EARTH
Comments: Could use Ganymede or Callisto instead If Jupiter max angular diam is ~48" during Cycle 31, and this acquisition is used for Io in eclipse/transit, need Europa to be separated from Io by at least 24", but that puts it right on Jupiter limb, so I doubled that angular distance Added observing restriction of Europa transiting Jupiter as well Duplicate of target 100. Description=For transit/eclipse observations where acquisition images of Io are not possible Extended=YES						

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Acquisition	(202) EUROPA-ACQ2	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=19; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER			0.3 Secs (0.3 Secs) *[==>]*	***[1]***
Comments: Checkbox size may need to be adjusted to expected size of Europa. Europa is 17.4-17.5 pixels on Sept. 9-14									
2		(65) IO-ECLIPSE-VIS-K	STIS/CCD, ACCUM, 52X2E1	G750M 7795 A	GAIN=1; CR-SPLIT=2			494 Secs (494 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***
3		(65) IO-ECLIPSE-VIS-K	STIS/CCD, ACCUM, 52X2E1	G750M 7795 A	GAIN=1; CR-SPLIT=2			494 Secs (494 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***
4	Fringe flat for G750M 7795	CCDFLAT	STIS/CCD, ACCUM, 52X2	G750M 7795 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	***[1]***

Orbit Structure



Visit

Proposal 17470, Io Eclipse Ingress COS NUV (66), implementation Wed Dec 31 16:02:11 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: COS/NUV

Special Requirements: SCHED 100%

Diagnostics

(Io Eclipse Ingress COS NUV (66)) Warning (Orbit Planner): INEFFICIENT ORDERING OF FP-POS POSITIONS

(Io Eclipse Ingress COS NUV (66)) Warning (Orbit Planner): TIMETAG EXPOSURE SHORTENED TO AVOID DATA LOSS

(Io Eclipse Ingress COS NUV (66)) Warning (Orbit Planner): TIMETAG EXPOSURE SHORTENED TO AVOID DATA LOSS

(Io Eclipse Ingress COS NUV (66)) Warning (Orbit Planner): TIMETAG EXPOSURE SHORTENED TO AVOID DATA LOSS

(Io Eclipse Ingress COS NUV (66)) Warning (Orbit Planner): TIMETAG EXPOSURE SHORTENED TO AVOID DATA LOSS

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(Io Eclipse Ingress COS NUV (66)) Warning (Orbit Planner): TIMETAG EXPOSURE SHORTENED TO AVOID DATA LOSS

(Io Eclipse Ingress COS NUV (66)) Warning (Orbit Planner): TIMETAG EXPOSURE SHORTENED TO AVOID DATA LOSS

(Io Eclipse Ingress COS NUV (66)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

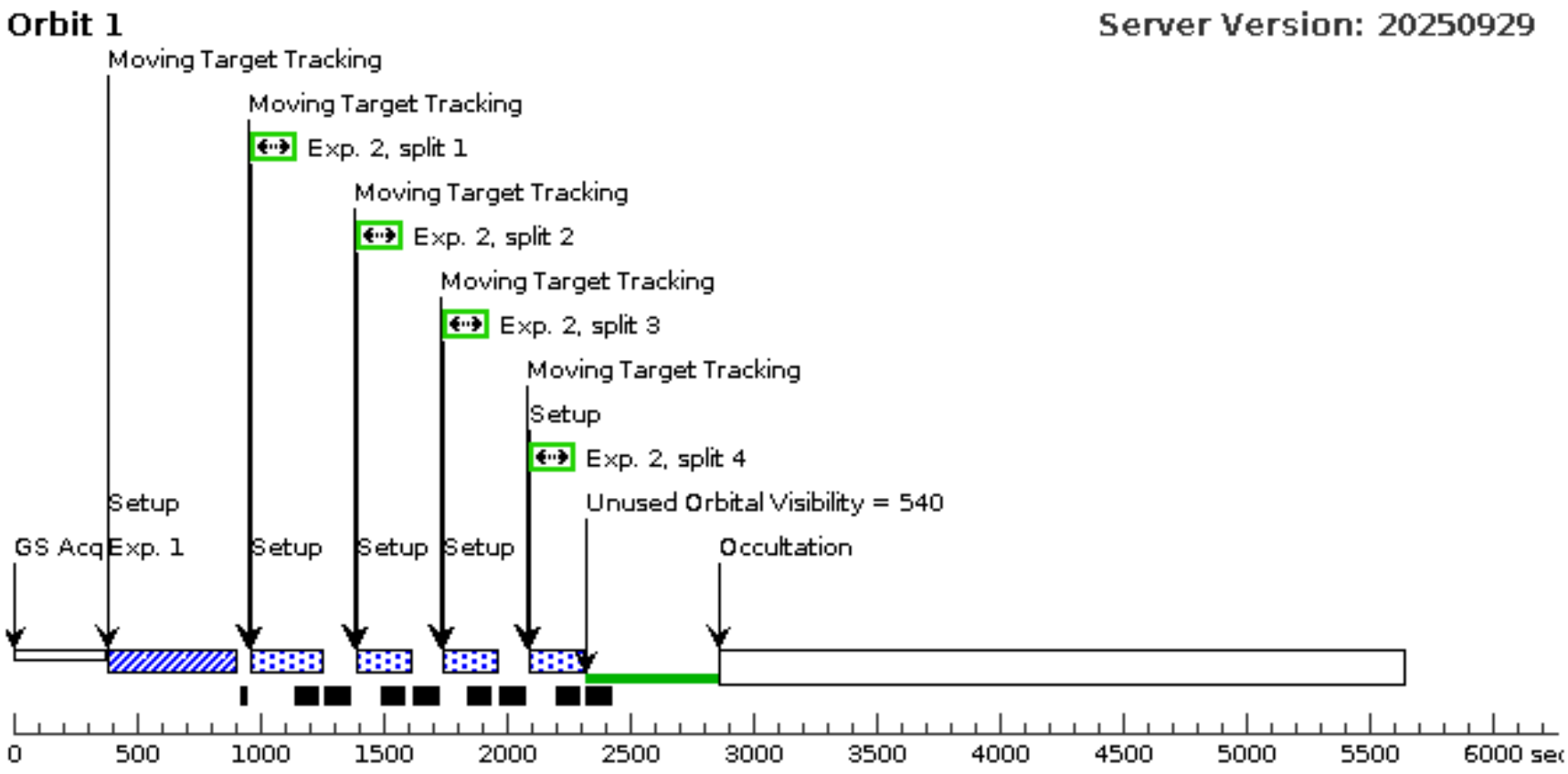
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(66)	IO-ECLIPSE-INGRESS-COS-NUV	STD=JUPITER	STD=IO		NOT OCC OF IO-ECLIPSE-INGRESS-COS-NUV BY JUPITER FROM EARTH, SEP OF IO-ECLIPSE-INGRESS-COS-NUV EUROPA FROM EARTH GT 10", SEP OF IO-ECLIPSE-INGRESS-COS-NUV GANYMEDE FROM EARTH GT 10", SEP OF IO-ECLIPSE-INGRESS-COS-NUV CALLISTO FROM EARTH GT 10", ECL P FULL OF IO-ECLIPSE-INGRESS-COS-NUV BY JUPITER FROM EARTH	EARTH

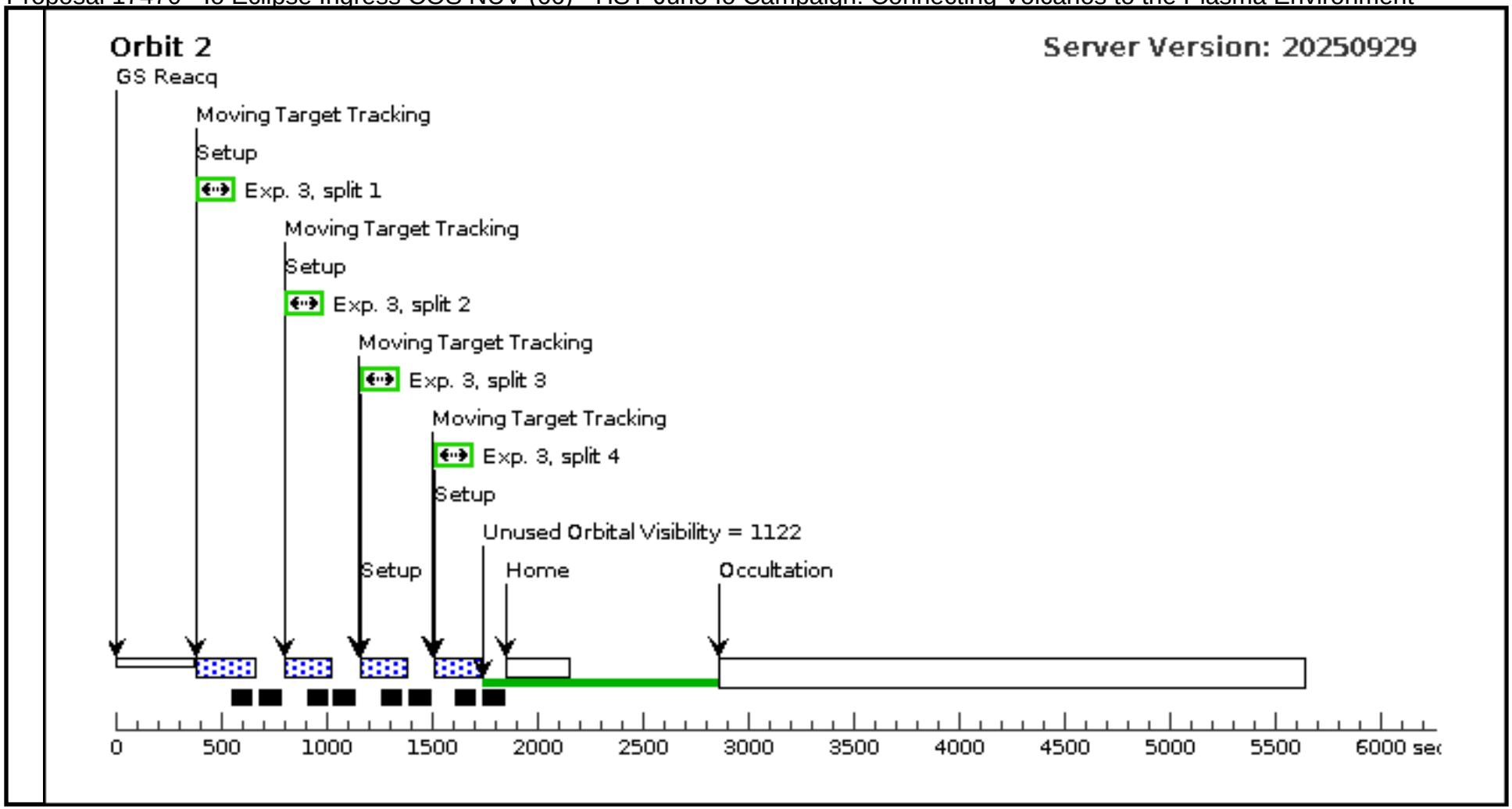
Comments: Description=Io in eclipse by Jupiter with COS NUV spectroscopy
Extended=YES

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.sa.1010061)	(66) IO-ECLIPSE-INGRESS-COS-NUV	COS/NUV, ACQ/SEARCH, PSA	G230L 3000 A	SCAN-SIZE=3; CENTER=FLUX-WT-FLR			1 Secs (1 Secs) *[==>]*	*[1]*
2	(COS.sa.1010060)	(66) IO-ECLIPSE-INGRESS-COS-NUV	COS/NUV, TIME-TAG, PSA	G230L 2635 A	BUFFER-TIME=100; FP-POS=ALL			30 Secs (1460 Secs) *[==>365.0 Secs (Split 1)]* *[==>365.0 Secs (Split 2)]* *[==>365.0 Secs (Split 3)]* *[==>365.0 Secs (Split 4)]*	*[1]*
3	(COS.sa.1010060)	(66) IO-ECLIPSE-INGRESS-COS-NUV	COS/NUV, TIME-TAG, PSA	G230L 2635 A	BUFFER-TIME=100; FP-POS=ALL			45 Secs (2068 Secs) *[==>517.0 Secs (Split 1)]* *[==>517.0 Secs (Split 2)]* *[==>517.0 Secs (Split 3)]* *[==>517.0 Secs (Split 4)]*	*[2]*

Orbit Structure




Orbit 2
Server Version: 20250929
GS Reacq
Moving Target Tracking
Setup
Exp. 3, split 1
Moving Target Tracking
Setup
Exp. 3, split 2
Moving Target Tracking
Exp. 3, split 3
Moving Target Tracking
Exp. 3, split 4
Setup
Unused Orbital Visibility = 1122
Setup
Home
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17470, Io Eclipse Ingress COS NUV (67), implementation Wed Dec 31 16:02:11 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: COS/NUV

Special Requirements: SCHED 100%

Comments: This observation requires acquisition from a sunlit moon, followed by a blind offset to a moon in shadow. Europa is used here, but Ganymede or Callisto should be used if Europa is too close to Jupiter.

No longer able to do EGRESS's

Diagnostics

(Io Eclipse Ingress COS NUV (67)) Warning (Orbit Planner): INEFFICIENT ORDERING OF FP-POS POSITIONS

(Io Eclipse Ingress COS NUV (67)) Warning (Orbit Planner): TIMETAG EXPOSURE SHORTENED TO AVOID DATA LOSS

(Io Eclipse Ingress COS NUV (67)) Warning (Orbit Planner): TIMETAG EXPOSURE SHORTENED TO AVOID DATA LOSS

(Io Eclipse Ingress COS NUV (67)) Warning (Orbit Planner): TIMETAG EXPOSURE SHORTENED TO AVOID DATA LOSS

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(Io Eclipse Ingress COS NUV (67)) Warning (Orbit Planner): TIMETAG EXPOSURE SHORTENED TO AVOID DATA LOSS

(Io Eclipse Ingress COS NUV (67)) Warning (Orbit Planner): TIMETAG EXPOSURE SHORTENED TO AVOID DATA LOSS

(Io Eclipse Ingress COS NUV (67)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

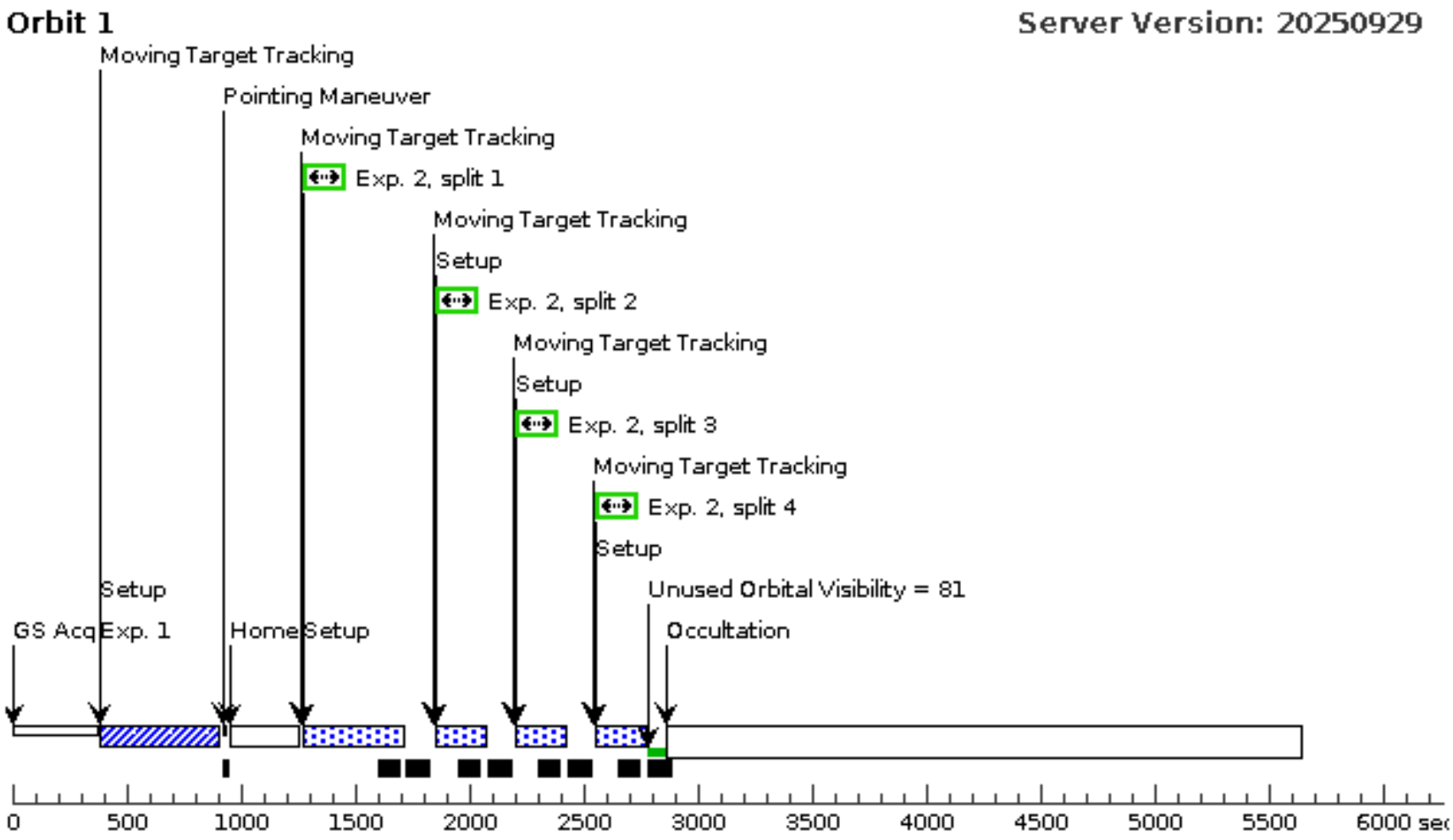
Solar System Targets

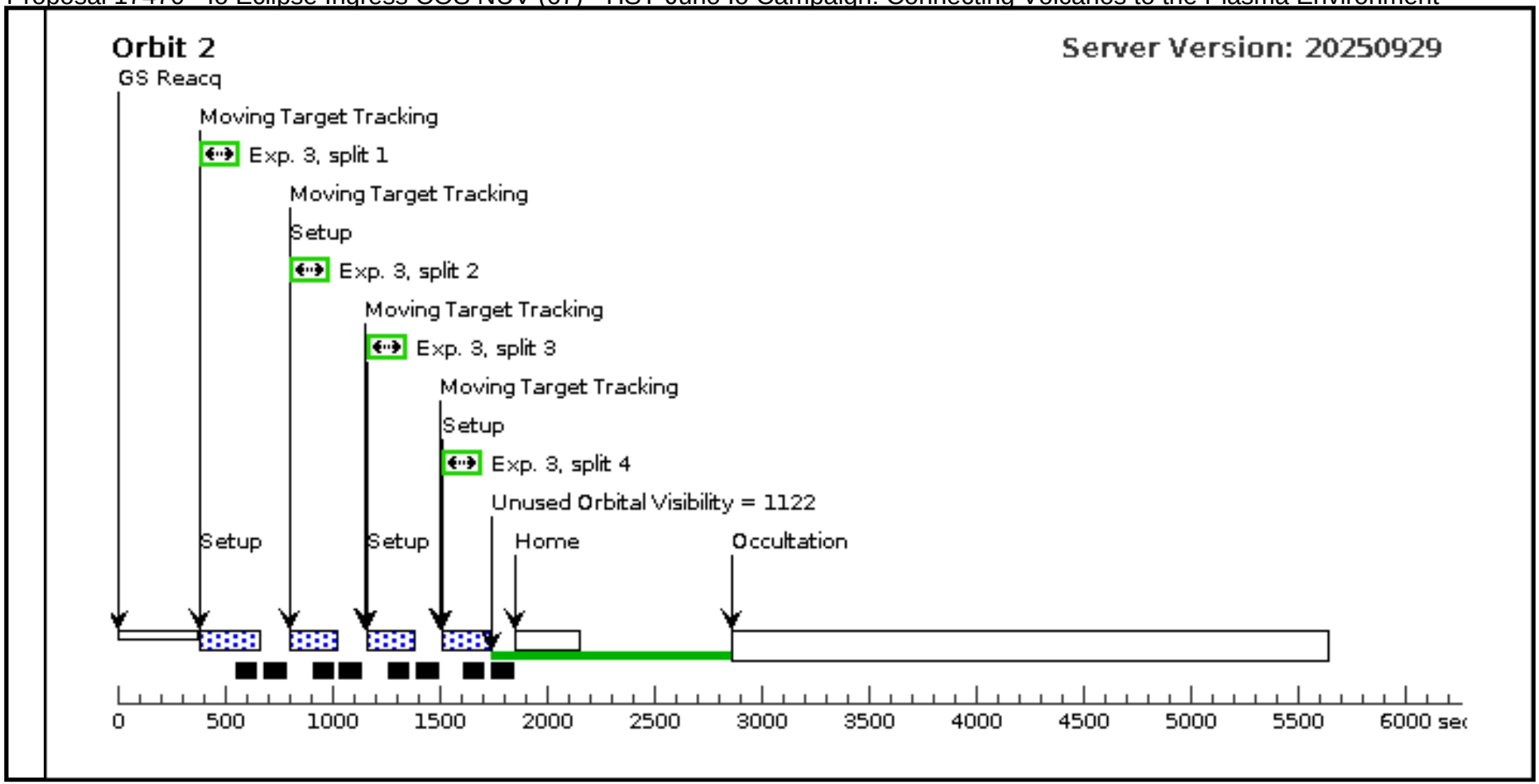
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(67)	IO-ECLIPSE-EGRESS-COS-NUV	STD=JUPITER	STD=IO		NOT OCC OF IO-ECLIPSE-EGRESS-COS-NUV BY JUPITER FROM EARTH, SEP OF IO-ECLIPSE-EGRESS-COS-NUV EUROPA FROM EARTH GT 10", SEP OF IO-ECLIPSE-EGRESS-COS-NUV GANYMEDE FROM EARTH GT 10", SEP OF IO-ECLIPSE-EGRESS-COS-NUV CALLISTO FROM EARTH GT 10"	EARTH
Comments: Description=Io in eclipse by Jupiter with COS NUV spectroscopy *Extended=YES*						
(206)	EUROPA-ACQ3	STD=JUPITER	STD=EUROPA		NOT OCC OF EUROPA-ACQ3 BY JUPITER FROM EARTH, SEP OF EUROPA-ACQ3 IO FROM EARTH GT 50", SEP OF EUROPA-ACQ3 GANYMEDE FROM EARTH GT 10", SEP OF EUROPA-ACQ3 CALLISTO FROM EARTH GT 10", NOT TRANSIT OF EUROPA-ACQ ACROSS JUPITER FROM EARTH	EARTH
Comments: Could use Ganymede or Callisto instead *If Jupiter max angular diam is ~48" during Cycle 31, and this acquisition is used for Io in eclipse/transit, need Europa to be separated from Io by at least 24", but that puts it right on Jupiter limb, so I doubled that angular distance* *Added observing restriction of Europa transiting Jupiter as well* *Duplicate of target 199 & 202.* *Description=For transit/eclipse observations where acquisition images of Io are not possible* *Extended=YES*						

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.sa.1010061)	(206) EUROPA-ACQ3	COS/NUV, ACQ/SEARCH, PSA	G230L 3000 A	SCAN-SIZE=3; CENTER=FLUX-WT-FLR			1 Secs (1 Secs) *[==>]*	*[1]*
2	(COS.sa.1010060)	(67) IO-ECLIPSE-EGRESS-COS-NUV	COS/NUV, TIME-TAG, PSA	G230L 2635 A	BUFFER-TIME=100; FP-POS=ALL			30 Secs (1028 Secs) *[==>257.0 Secs (Split 1)]* *[==>257.0 Secs (Split 2)]* *[==>257.0 Secs (Split 3)]* *[==>257.0 Secs (Split 4)]*	*[1]*
3	(COS.sa.1010060)	(67) IO-ECLIPSE-EGRESS-COS-NUV	COS/NUV, TIME-TAG, PSA	G230L 2635 A	BUFFER-TIME=100; FP-POS=ALL			45 Secs (2068 Secs) *[==>517.0 Secs (Split 1)]* *[==>517.0 Secs (Split 2)]* *[==>517.0 Secs (Split 3)]* *[==>517.0 Secs (Split 4)]*	*[2]*

Orbit Structure




Orbit 2
Server Version: 20250929
GS Reacq
Moving Target Tracking
Exp. 3, split 1
Moving Target Tracking
Setup
Exp. 3, split 2
Moving Target Tracking
Exp. 3, split 3
Moving Target Tracking
Setup
Exp. 3, split 4
Unused Orbital Visibility = 1122
Setup
Setup
Home
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17470, IO-ECLIPSE-STIS-NUV (68), implementation Wed Dec 31 16:02:11 GMT 2025

Diagnostic Status: Informational

Scientific Instruments: STIS/CCD

Special Requirements: SCHED 100%; AFTER 66 BY 0 M TO 52 H

Comments: STIS NUV context for COS NUV ingress and egress observations.
I have linked it to after ingress observation, could just as easily be before egress observation by 0 to 52 hr.
We need to double check sensitivity of long wavelength S2 aurora emissions with CCD versus MAMA. Might switch to MAMA.

Diagnostics

(IO-ECLIPSE-STIS-NUV (68)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

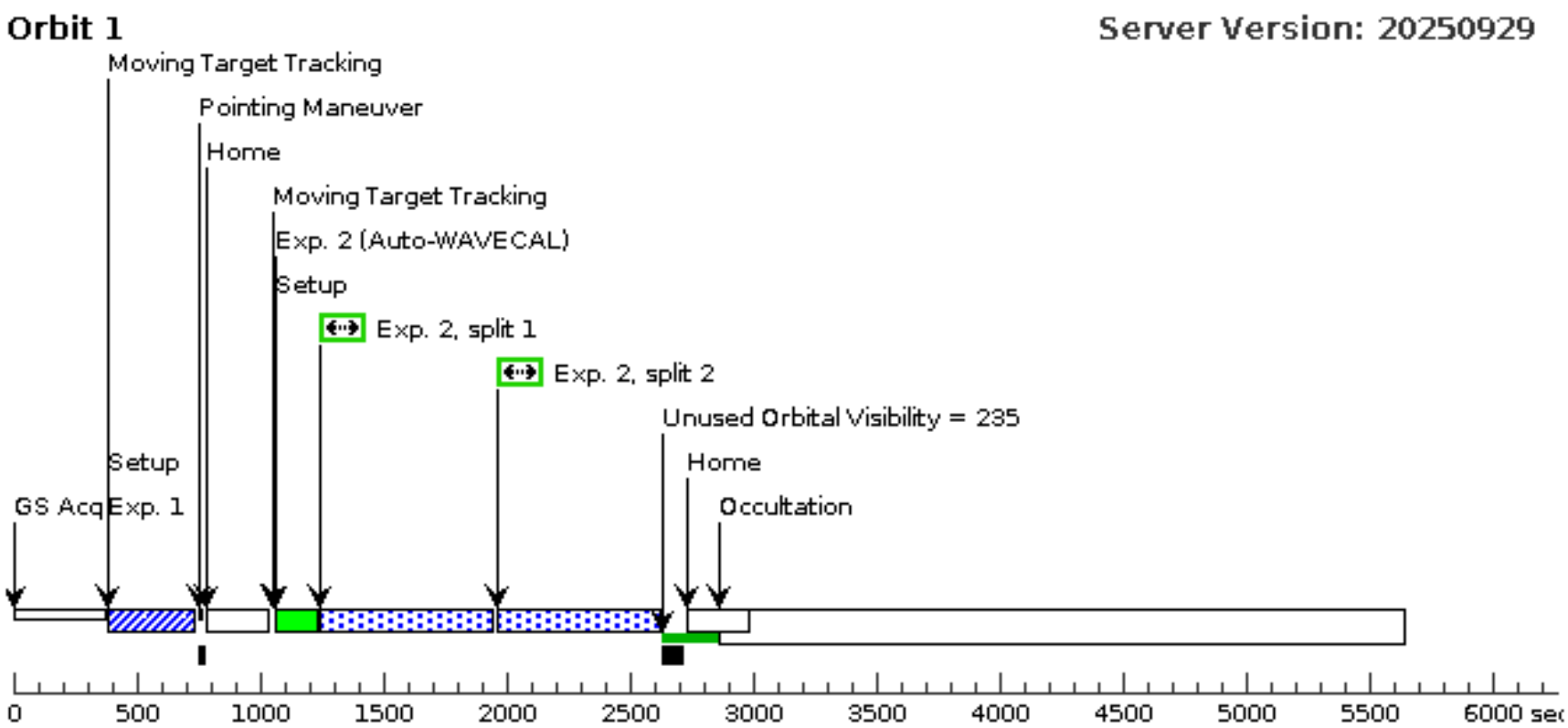
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(68)	IO-ECLIPSE-STIS-NUV	STD=JUPITER	STD=IO		NOT OCC OF IO-ECLIPSE-STIS-NUV BY JUPITER FROM EARTH, SEP OF IO-ECLIPSE-STIS-NUV EUROPA FROM EARTH GT 10", SEP OF IO-ECLIPSE-STIS-NUV GANYMEDE FROM EARTH GT 10", SEP OF IO-ECLIPSE-STIS-NUV CALLISTO FROM EARTH GT 10", ECL U FULL OF IO-ECLIPSE-STIS-NUV BY JUPITER FROM EARTH	EARTH
Comments: Is context for COS eclipse data (IO-ECLIPSE-INGRESS-COS-NUV and IO-ECLIPSE-INGRESS-COS-NUV) and should be linked in time one Io orbit before/after *Description=Io in eclipse by Jupiter with STIS NUV spectral imaging* *Extended=YES*						
(202)	EUROPA-ACQ2	STD=JUPITER	STD=EUROPA		NOT OCC OF EUROPA-ACQ2 BY JUPITER FROM EARTH, SEP OF EUROPA-ACQ2 IO FROM EARTH GT 50", SEP OF EUROPA-ACQ2 GANYMEDE FROM EARTH GT 10", SEP OF EUROPA-ACQ2 CALLISTO FROM EARTH GT 10", NOT TRANSIT OF EUROPA-ACQ ACROSS JUPITER FROM EARTH	EARTH
Comments: Could use Ganymede or Callisto instead *If Jupiter max angular diam is ~48" during Cycle 31, and this acquisition is used for Io in eclipse/transit, need Europa to be separated from Io by at least 24", but that puts it right on Jupiter limb, so I doubled that angular distance* *Added observing restriction of Europa transiting Jupiter as well* *Duplicate of target 100.* *Description=For transit/eclipse observations where acquisition images of Io are not possible* *Extended=YES*						

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ EUROPA then offset to IO	(202) EUROPA-ACQ2	STIS/CCD, ACQ, F28X50LP	MIRROR	ACQTYPE=DIFFUSE; CHECKBOX=19; DIFFUSE-CENTER=GEOMETRIC-CENTER			0.3 Secs (0.3 Secs)	
								[==>]	*[1]*
2		(68) IO-ECLIPSE-STIS-NUV	STIS/CCD, ACCUM, 52X2	G230LB 2375 A				1242 Secs (1242 Secs)	
								[==>(Split 1)] *[==>(Split 2)]*	*[1]*

Comments: Make sure to offset to Io once Europa is acquired

Orbit Structure



Visit

Proposal 17470, Io Leading STIS VIS (80), withdrawn Wed Dec 31 16:02:11 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD

Special Requirements: SCHED 100%

Diagnostics

(Io Leading STIS VIS (80)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Io Leading STIS VIS (80)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=STIS-PERP-TO-SLIT Purpose=MOSAIC Number Of Points=28 Point Spacing=0.034 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=0.0 Angle Between Sides= Center Pattern=true		(2), (5)

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(80)	IO-SURFACE-STIS-VIS-LEADING	STD=JUPITER	STD=IO		NOT OCC OF IO-SURFACE-STIS-VIS-LEADING BY JUPITER FROM EARTH, SEP OF IO-SURFACE-STIS-VIS-LEADING EUROPA FROM EARTH GT 10", SEP OF IO-SURFACE-STIS-VIS-LEADING GANYMEDE FROM EARTH GT 10", SEP OF IO-SURFACE-STIS-VIS-LEADING CALLISTO FROM EARTH GT 10", CML OF IO-SURFACE-STIS-VIS-LEADING FROM EARTH BETWEEN 75 105	EARTH

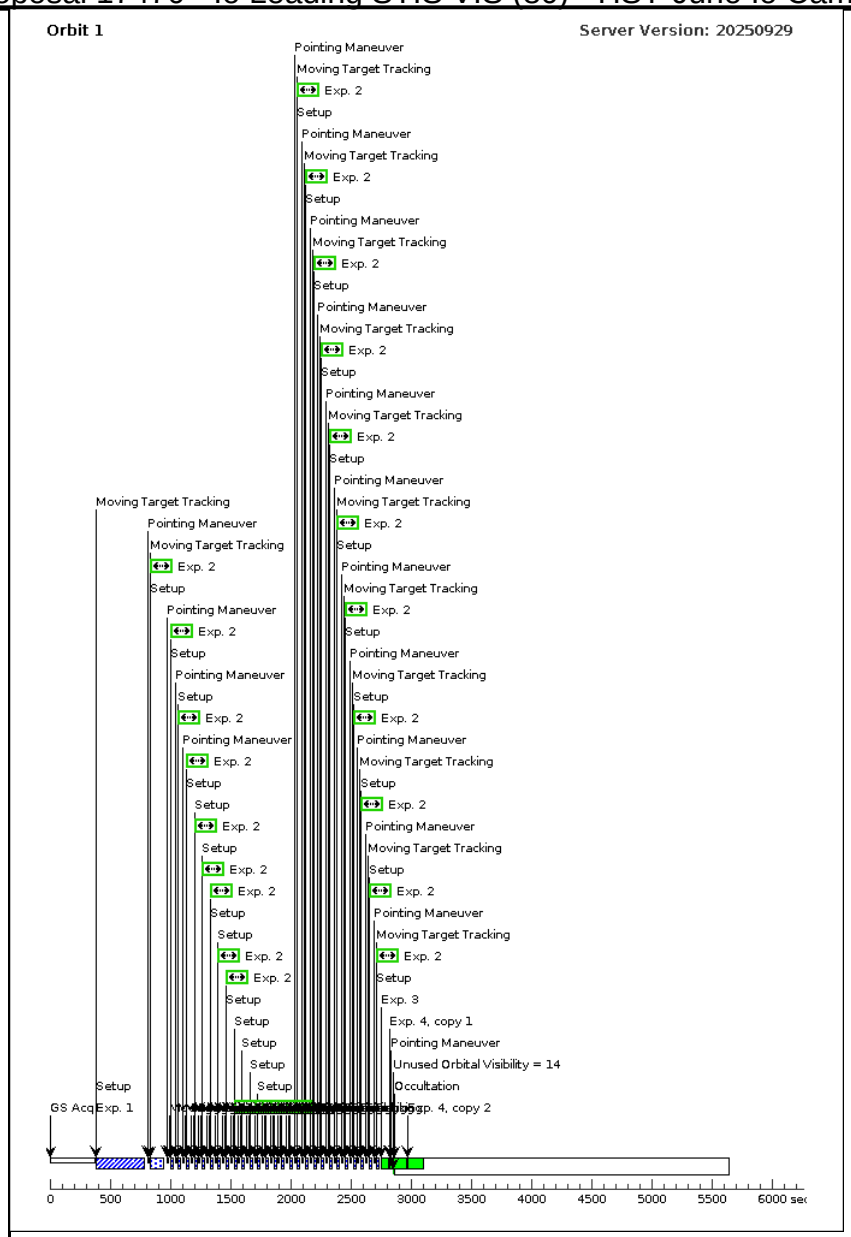
Comments: Was OLG 80 TO 100 but expanded to help with scheduling.
Description=SATELLITE IO
Extended=YES

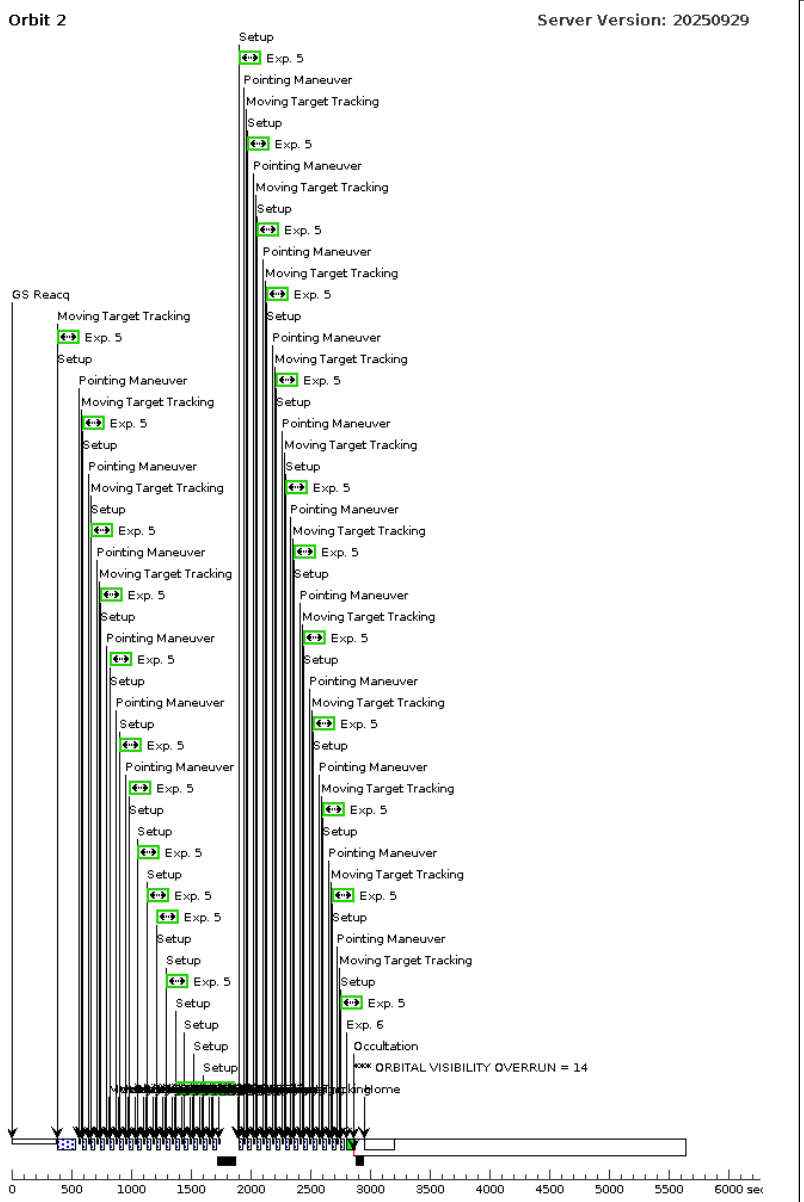
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Io acquisition	(80) IO-SURFACE-STIS-VIS-LEADING	STIS/CCD, ACQ, F28X50LP	MIRROR	ACQTYPE=DIFFUSE; CHECKBOX=25; DIFFUSE-CENTER=GEOMETRIC-CENTER		Sequence 1-2 Non-Int in Io Leading STIS VIS (80)	0.3 Secs (0.3 Secs) *[==>]*	*[1]*
Comments: Visit planned for Dec 4, 2023. Io diameter is 1.22 and CHECKBOX thus 1.22/0.05 = 24.4 ~ 25									
2		(80) IO-SURFACE-STIS-VIS-LEADING	STIS/CCD, ACCUM, 52X0.05	G750L 7751 A	SIZEAXIS2=80; CR-SPLIT=NO; WAVECAL=NO		Sequence 1-2 Non-Int in Io Leading STIS VIS (80) Pattern 1, Exps 2-2 in Sequence 1-2 Non-Int in Io Leading STIS VIS (80) (1)	6 Secs (140 Secs) *[==>5.0 Secs (Pattern 1)]* *[==>5.0 Secs (Pattern 2)]* *[==>5.0 Secs (Pattern 3)]* *[==>5.0 Secs (Pattern 4)]* *[==>5.0 Secs (Pattern 5)]* *[==>5.0 Secs (Pattern 6)]* *[==>5.0 Secs (Pattern 7)]* *[==>5.0 Secs (Pattern 8)]* *[==>5.0 Secs (Pattern 9)]* *[==>5.0 Secs (Pattern 10)]* *[==>5.0 Secs (Pattern 11)]* *[==>5.0 Secs (Pattern 12)]* *[==>5.0 Secs (Pattern 13)]* *[==>5.0 Secs (Pattern 14)]* *[==>5.0 Secs (Pattern 15)]* *[==>5.0 Secs (Pattern 16)]* *[==>5.0 Secs (Pattern 17)]* *[==>5.0 Secs (Pattern 18)]* *[==>5.0 Secs (Pattern 19)]* *[==>5.0 Secs (Pattern 20)]* *[==>5.0 Secs (Pattern 21)]* *[==>5.0 Secs (Pattern 22)]* *[==>5.0 Secs (Pattern 23)]* *[==>5.0 Secs (Pattern 24)]* *[==>5.0 Secs (Pattern 25)]* *[==>5.0 Secs (Pattern 26)]* *[==>5.0 Secs (Pattern 27)]* *[==>5.0 Secs (Pattern 28)]*	*[1]*
3	Wavecal for G750L	WAVE	STIS/CCD, ACCUM, 52X0.05	G750L 7751 A				*[==>]*	*[1]*
4	Fringe flat for G750L	CCDFLAT	STIS/CCD, ACCUM, 52X0.05	G750L 7751 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	*[1]*

5	G430L slit-step pattern	(80) IO-SURFACE-STIS-VIS-LEADING	STIS/CCD, ACCUM, 52X0.05	G430L 4300 A	SIZEAXIS2=80; CR-SPLIT=NO; WAVECAL=NO	Sequence 5-5 Non-Int in Io Leading STIS VIS (80) Pattern 1, Exps 5-5 in Sequence 5-5 Non-Int in Io Leading STIS VIS (80) (1)	20 Secs (476 Secs) *[==>17.0 Secs (Pattern 1)]* *[==>17.0 Secs (Pattern 2)]* *[==>17.0 Secs (Pattern 3)]* *[==>17.0 Secs (Pattern 4)]* *[==>17.0 Secs (Pattern 5)]* *[==>17.0 Secs (Pattern 6)]* *[==>17.0 Secs (Pattern 7)]* *[==>17.0 Secs (Pattern 8)]* *[==>17.0 Secs (Pattern 9)]* *[==>17.0 Secs (Pattern 10)]* *[==>17.0 Secs (Pattern 11)]* *[==>17.0 Secs (Pattern 12)]* *[==>17.0 Secs (Pattern 13)]* *[==>17.0 Secs (Pattern 14)]* *[==>17.0 Secs (Pattern 15)]* *[==>17.0 Secs (Pattern 16)]* *[==>17.0 Secs (Pattern 17)]* *[==>17.0 Secs (Pattern 18)]* *[==>17.0 Secs (Pattern 19)]* *[==>17.0 Secs (Pattern 20)]* *[==>17.0 Secs (Pattern 21)]* *[==>17.0 Secs (Pattern 22)]* *[==>17.0 Secs (Pattern 23)]* *[==>17.0 Secs (Pattern 24)]* *[==>17.0 Secs (Pattern 25)]* *[==>17.0 Secs (Pattern 26)]* *[==>17.0 Secs (Pattern 27)]* *[==>17.0 Secs (Pattern 28)]*	***[2]***
6	Wavecal for G430L	WAVE	STIS/CCD, ACCUM, 52X0.05	G430L 4300 A			*[==>]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20250929
GS Reacq
Moving Target Tracking
Exp. 5
Setup
Pointing Maneuver
Exp. 6
Occultation
*** ORBITAL VISIBILITY OVERRUN = 14
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17470, Io Leading STIS VIS (duplicate of visit 80) (8B), completed Wed Dec 31 16:02:11 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD

Special Requirements: SCHED 100%

Comments: This is a duplicate of visit 80 with longer science exposures in orbit 1 and the G750L wavecal pushed into occultation.

Diagnostics

(Io Leading STIS VIS (duplicate of visit 80) (8B)) Warning (Orbit Planner): GS ACQ SCENARIO REQUESTED INCONSISTENT WITH VISIT GYRO MODE

(Io acquisition (8B.001) special requirements) Warning (Form): The specified GS Acq Scenario is not in the current list of valid scenarios.

(Io Leading STIS VIS (duplicate of visit 80) (8B)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(15)	Pattern Type=STIS-PERP-TO-SLIT Purpose=MOSAIC Number Of Points=23 Point Spacing=0.034 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=0.0 Angle Between Sides= Center Pattern=true		(2), (5)

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(80)	IO-SURFACE-STIS-VIS-LEADING	STD=JUPITER	STD=IO		NOT OCC OF IO-SURFACE-STIS-VIS-LEADING BY JUPITER FROM EARTH, SEP OF IO-SURFACE-STIS-VIS-LEADING EUROPA FROM EARTH GT 10", SEP OF IO-SURFACE-STIS-VIS-LEADING GANYMEDE FROM EARTH GT 10", SEP OF IO-SURFACE-STIS-VIS-LEADING CALLISTO FROM EARTH GT 10", CML OF IO-SURFACE-STIS-VIS-LEADING FROM EARTH BETWEEN 75 105	EARTH

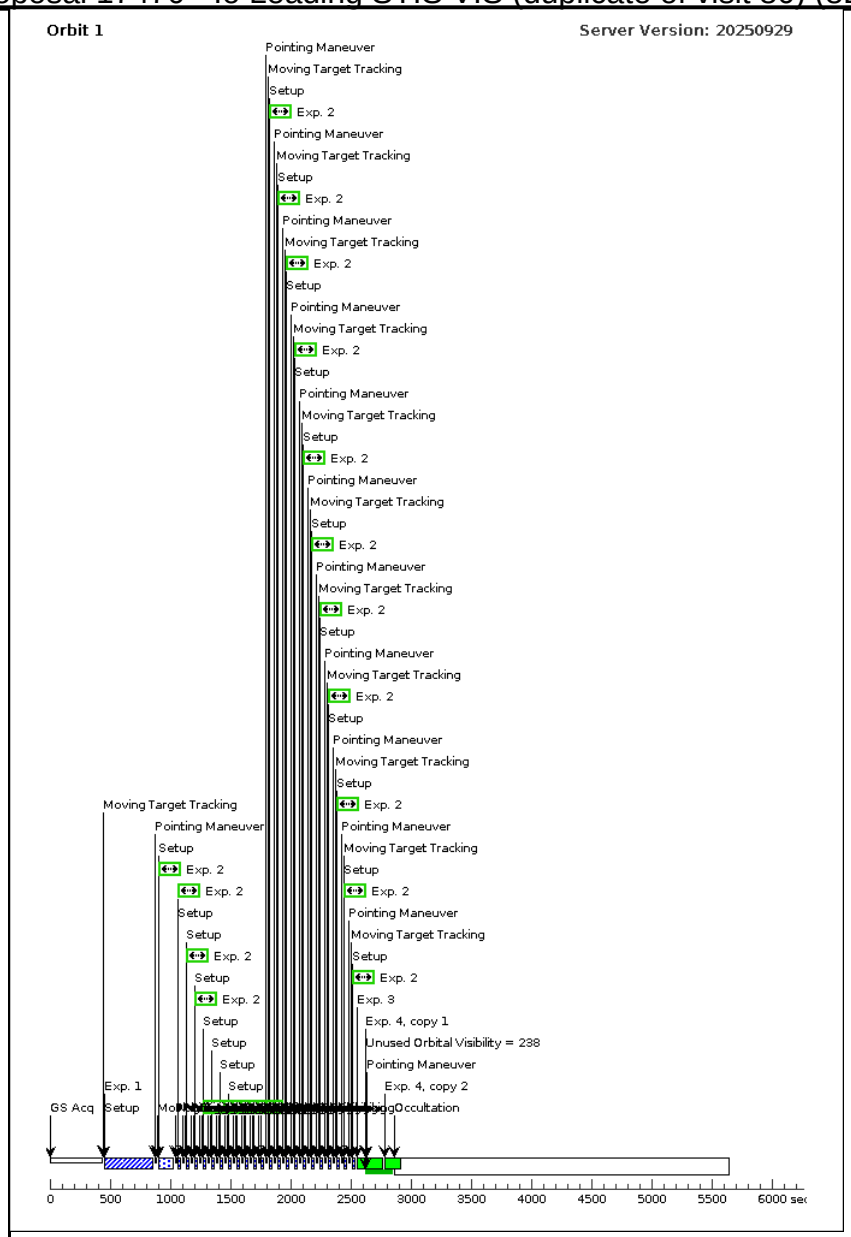
Comments: Was OLG 80 TO 100 but expanded to help with scheduling.
Description=SATELLITE IO
Extended=YES

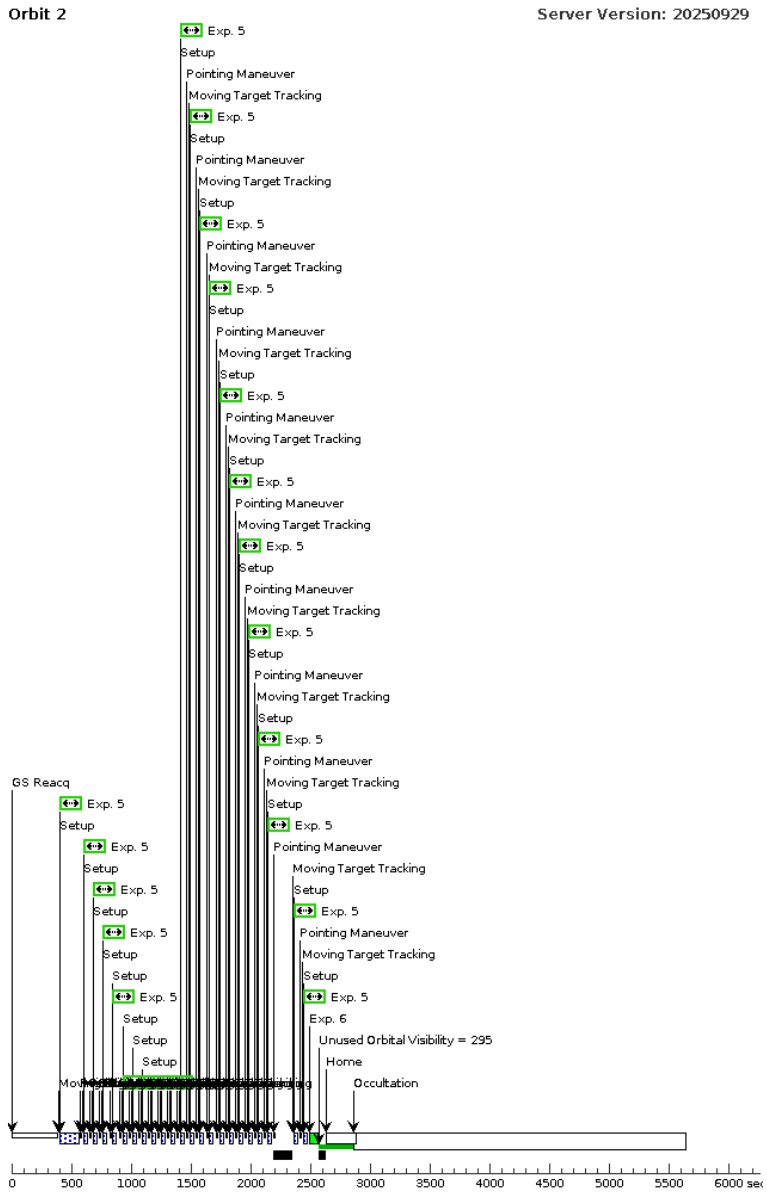
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Io acquisition	(80) IO-SURFACE-STIS-VIS-LEADING	STIS/CCD, ACQ, F28X50LP	MIRROR	ACQTYPE=DIFFUSE; CHECKBOX=25; DIFFUSE-CENTER=GEOMETRIC-CENTER	GS ACQ SCENARIO BASE1BR	Sequence 1-2 Non-Int in Io Leading STIS VIS (duplicate of visit 80) (8B)	0.3 Secs (0.3 Secs) *[==>]*	*[1]*
Comments: Visit planned for Dec 4, 2023. Io diameter is 1.22 and CHECKBOX thus 1.22/0.05 = 24.4 ~ 25									
2		(80) IO-SURFACE-STIS-VIS-LEADING	STIS/CCD, ACCUM, 52X0.05	G750L 7751 A	SIZEAXIS2=80; CR-SPLIT=NO; WAVECAL=NO		Sequence 1-2 Non-Int in Io Leading STIS VIS (duplicate of visit 80) (8B) Pattern 15, Exps 2-2 in Sequence 1-2 Non-Int in Io Leading STIS VIS (duplicate of visit 80) (8B) (15)	8 Secs (184 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]* *[==>(Pattern 5)]* *[==>(Pattern 6)]* *[==>(Pattern 7)]* *[==>(Pattern 8)]* *[==>(Pattern 9)]* *[==>(Pattern 10)]* *[==>(Pattern 11)]* *[==>(Pattern 12)]* *[==>(Pattern 13)]* *[==>(Pattern 14)]* *[==>(Pattern 15)]* *[==>(Pattern 16)]* *[==>(Pattern 17)]* *[==>(Pattern 18)]* *[==>(Pattern 19)]* *[==>(Pattern 20)]* *[==>(Pattern 21)]* *[==>(Pattern 22)]* *[==>(Pattern 23)]*	*[1]*
3	Wavecal for G750L	WAVE	STIS/CCD, ACCUM, 52X0.05	G750L 7751 A				*[==>]*	*[1]*
4	Fringe flat for G750L	CCDFLAT	STIS/CCD, ACCUM, 52X0.05	G750L 7751 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	*[1]*

	5	G430L slit-step pattern	(80) IO-SURFACE-STIS-VIS-LEADING	STIS/CCD, ACCUM, 52X0.05	G430L 4300 A	SIZEAXIS2=80; CR-SPLIT=NO; WAVECAL=NO	Sequence 5-5 Non-Int in Io Leading STIS VIS (duplicate of visit 80) (8B) Pattern 15, Exps 5-5 in Sequence 5-5 Non-Int in Io Leading STIS VIS (duplicate of visit 80) (8B) (15)	20 Secs (460 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]* *[==>(Pattern 5)]* *[==>(Pattern 6)]* *[==>(Pattern 7)]* *[==>(Pattern 8)]* *[==>(Pattern 9)]* *[==>(Pattern 10)]* *[==>(Pattern 11)]* *[==>(Pattern 12)]* *[==>(Pattern 13)]* *[==>(Pattern 14)]* *[==>(Pattern 15)]* *[==>(Pattern 16)]* *[==>(Pattern 17)]* *[==>(Pattern 18)]* *[==>(Pattern 19)]* *[==>(Pattern 20)]* *[==>(Pattern 21)]* *[==>(Pattern 22)]* *[==>(Pattern 23)]*	***[2]***
	6	Wavecal for G430L	WAVE	STIS/CCD, ACCUM, 52X0.05	G430L 4300 A			*[==>]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20250929
Exp. 5
Setup
Pointing Maneuver
Moving Target Tracking
GS Reacq
Exp. 6
Unused Orbital Visibility = 295
Home
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17470, Io Trailing STIS VIS (81), failed Wed Dec 31 16:02:11 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD

Special Requirements: SCHED 100%

Diagnostics

(Io Trailing STIS VIS (81)) Warning (Orbit Planner): GS ACQ SCENARIO REQUESTED INCONSISTENT WITH VISIT GYRO MODE

(Io Trailing STIS VIS (81)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Io Trailing STIS VIS (81)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Io acquisition (81.001) special requirements) Warning (Form): The specified GS Acq Scenario is not in the current list of valid scenarios.

(Io Trailing STIS VIS (81)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=STIS-PERP-TO-SLIT Purpose=MOSAIC Number Of Points=28 Point Spacing=0.034 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=0.0 Angle Between Sides= Center Pattern=true		(2), (5)

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(81)	IO-SURFACE-STIS-VIS-TRAILING	STD=JUPITER	STD=IO		NOT OCC OF IO-SURFACE-STIS-VIS-TRAILING BY JUPITER FROM EARTH, SEP OF IO-SURFACE-STIS-VIS-TRAILING EUROPA FROM EARTH GT 10", SEP OF IO-SURFACE-STIS-VIS-TRAILING GANYMEDE FROM EARTH GT 10", SEP OF IO-SURFACE-STIS-VIS-TRAILING CALLISTO FROM EARTH GT 10", CML OF IO-SURFACE-STIS-VIS-TRAILING FROM EARTH BETWEEN 255 285	EARTH

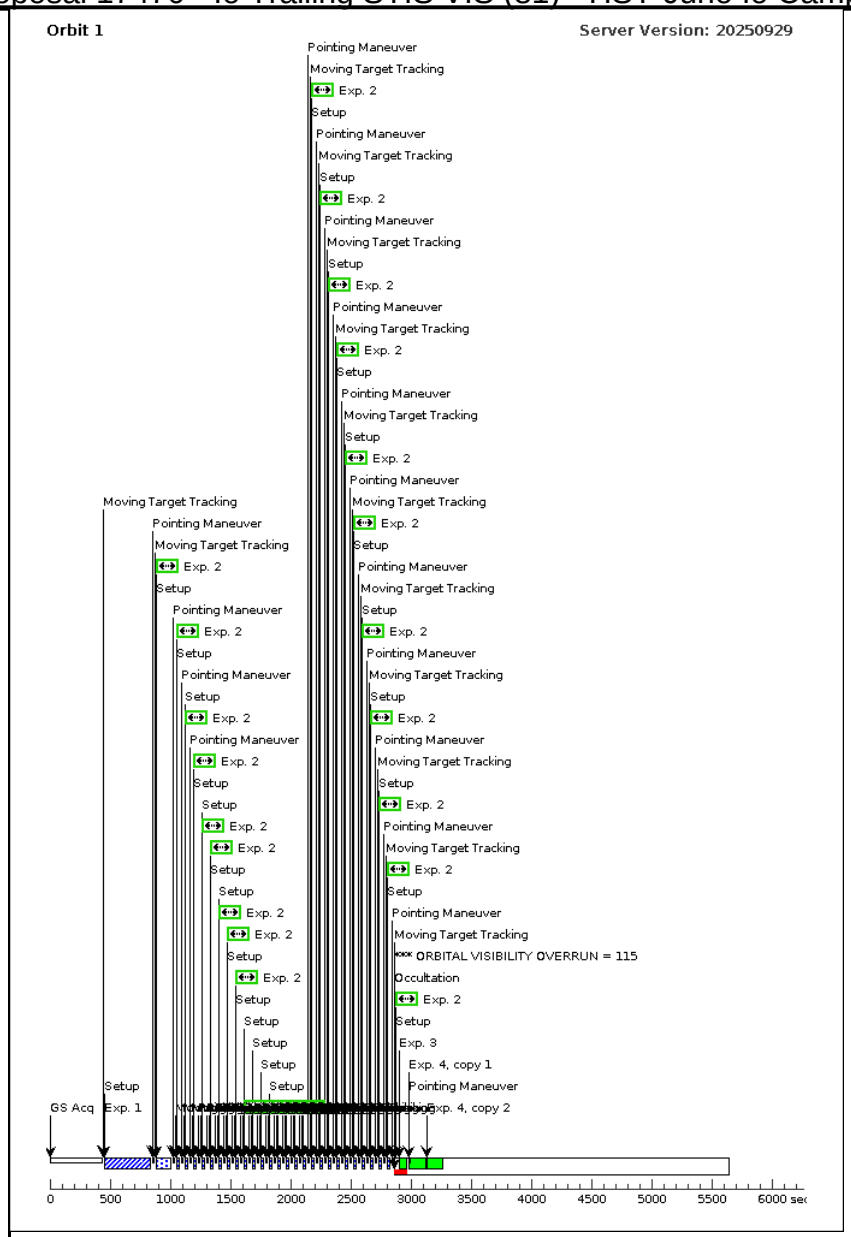
Comments: Was OLG 260 TO 280 but expanded to help with scheduling.
Description=SATELLITE IO
Extended=YES

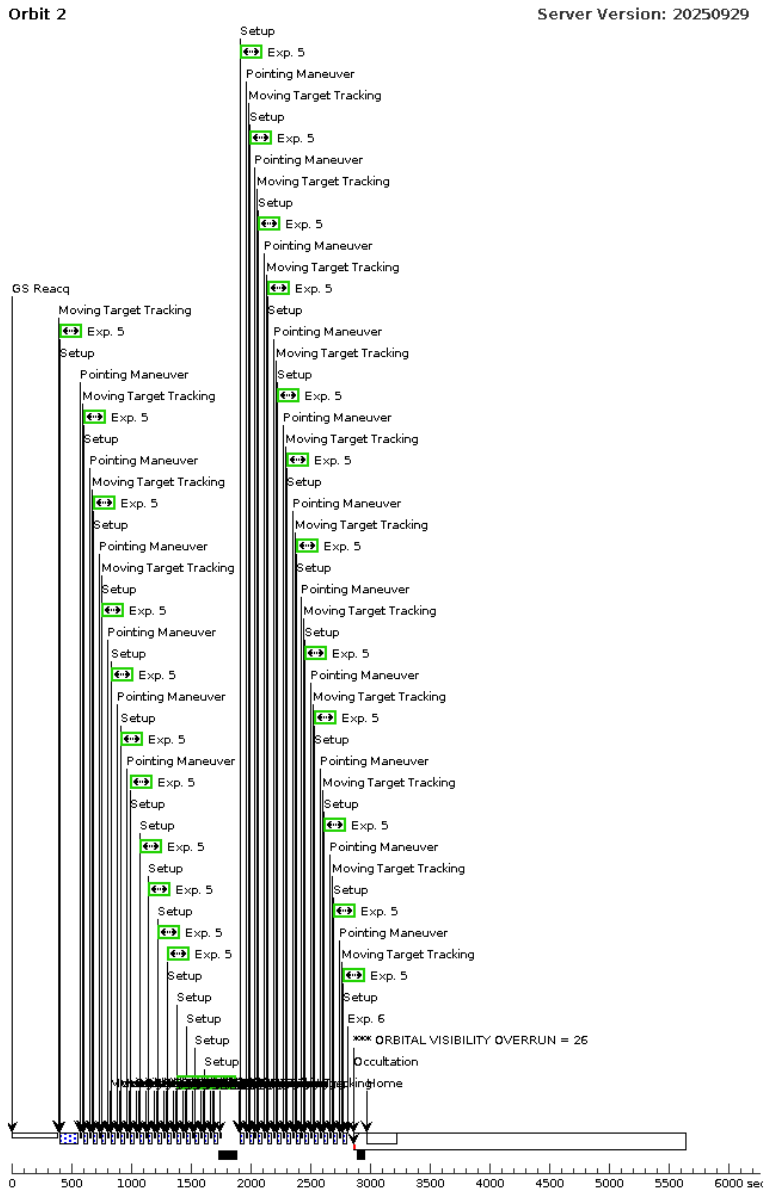
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Io acquisition	(81) IO-SURFACE-STIS-VIS-TRAILING	STIS/CCD, ACQ, F28X50LP	MIRROR	ACQTYPE=DIFFUSE; CHECKBOX=23; DIFFUSE-CENTER=GEOMETRIC-CENTER	GS ACQ SCENARIO BASE1BR	Sequence 1-2 Non-Int in Io Trailing STIS VIS (81)	0.3 Secs (0.3 Secs) *[==>]*	*[1]*
2		(81) IO-SURFACE-STIS-VIS-TRAILING	STIS/CCD, ACCUM, 52X0.05	G750L 7751 A	SIZEAXIS2=80; CR-SPLIT=NO; WAVECAL=NO		Sequence 1-2 Non-Int in Io Trailing STIS VIS (81) Pattern 1, Exps 2-2 in Sequence 1-2 Non-Int in Io Trailing STIS VIS (81) (1)	9 Secs (252 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]* *[==>(Pattern 5)]* *[==>(Pattern 6)]* *[==>(Pattern 7)]* *[==>(Pattern 8)]* *[==>(Pattern 9)]* *[==>(Pattern 10)]* *[==>(Pattern 11)]* *[==>(Pattern 12)]* *[==>(Pattern 13)]* *[==>(Pattern 14)]* *[==>(Pattern 15)]* *[==>(Pattern 16)]* *[==>(Pattern 17)]* *[==>(Pattern 18)]* *[==>(Pattern 19)]* *[==>(Pattern 20)]* *[==>(Pattern 21)]* *[==>(Pattern 22)]* *[==>(Pattern 23)]* *[==>(Pattern 24)]* *[==>(Pattern 25)]* *[==>(Pattern 26)]* *[==>(Pattern 27)]* *[==>(Pattern 28)]*	*[1]*
3	Wavecal for G750L	WAVE	STIS/CCD, ACCUM, 52X0.05	G750L 7751 A				*[==>]*	*[1]*
4	Fringe flat for G750L	CCDFLAT	STIS/CCD, ACCUM, 52X0.05	G750L 7751 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	*[1]*

5	G430L slit-step pattern	(81) IO-SURFACE-STIS-VIS-TRAILING	STIS/CCD, ACCUM, 52X0.05	G430L 4300 A	SIZEAXIS2=80; CR-SPLIT=NO; WAVECAL=NO	Sequence 5-5 Non-Int in Io Trailing STIS VIS (81) Pattern 1, Exps 5-5 in Sequence 5-5 Non-Int in Io Trailing STIS VIS (81) (1)	20 Secs (476 Secs) *[==>17.0 Secs (Pattern 1)]* *[==>17.0 Secs (Pattern 2)]* *[==>17.0 Secs (Pattern 3)]* *[==>17.0 Secs (Pattern 4)]* *[==>17.0 Secs (Pattern 5)]* *[==>17.0 Secs (Pattern 6)]* *[==>17.0 Secs (Pattern 7)]* *[==>17.0 Secs (Pattern 8)]* *[==>17.0 Secs (Pattern 9)]* *[==>17.0 Secs (Pattern 10)]* *[==>17.0 Secs (Pattern 11)]* *[==>17.0 Secs (Pattern 12)]* *[==>17.0 Secs (Pattern 13)]* *[==>17.0 Secs (Pattern 14)]* *[==>17.0 Secs (Pattern 15)]* *[==>17.0 Secs (Pattern 16)]* *[==>17.0 Secs (Pattern 17)]* *[==>17.0 Secs (Pattern 18)]* *[==>17.0 Secs (Pattern 19)]* *[==>17.0 Secs (Pattern 20)]* *[==>17.0 Secs (Pattern 21)]* *[==>17.0 Secs (Pattern 22)]* *[==>17.0 Secs (Pattern 23)]* *[==>17.0 Secs (Pattern 24)]* *[==>17.0 Secs (Pattern 25)]* *[==>17.0 Secs (Pattern 26)]* *[==>17.0 Secs (Pattern 27)]* *[==>17.0 Secs (Pattern 28)]*	***[2]***
6	Wavecal for G430L	WAVE	STIS/CCD, ACCUM, 52X0.05	G430L 4300 A			*[==>]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20250929
GS Reacq
Moving Target Tracking
Exp. 5
Setup
Pointing Maneuver
Exp. 6
*** ORBITAL VISIBILITY OVERRUN = 26
Occultation
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17470, Io Trailing STIS VIS (91), implementation Wed Dec 31 16:02:12 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD

Special Requirements: SCHED 100%

Comments: HOPR repeat of visit 81

Diagnostics

(Io Trailing STIS VIS (91)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Io Trailing STIS VIS (91)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Io Trailing STIS VIS (91)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=STIS-PERP-TO-SLIT Purpose=MOSAIC Number Of Points=28 Point Spacing=0.034 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=0.0 Angle Between Sides= Center Pattern=true		(2), (5)

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(91)	IO-SURFACE-STIS-VIS-TRAILING2	STD=JUPITER	STD=IO		NOT OCC OF IO-SURFACE-STIS-VIS-TRAILING2 BY JUPITER FROM EARTH, SEP OF IO-SURFACE-STIS-VIS-TRAILING2 EUROPA FROM EARTH GT 10", SEP OF IO-SURFACE-STIS-VIS-TRAILING2 GANYMEDE FROM EARTH GT 10", SEP OF IO-SURFACE-STIS-VIS-TRAILING2 CALLISTO FROM EARTH GT 10", CML OF IO-SURFACE-STIS-VIS-TRAILING FROM EARTH BETWEEN 255 285	EARTH

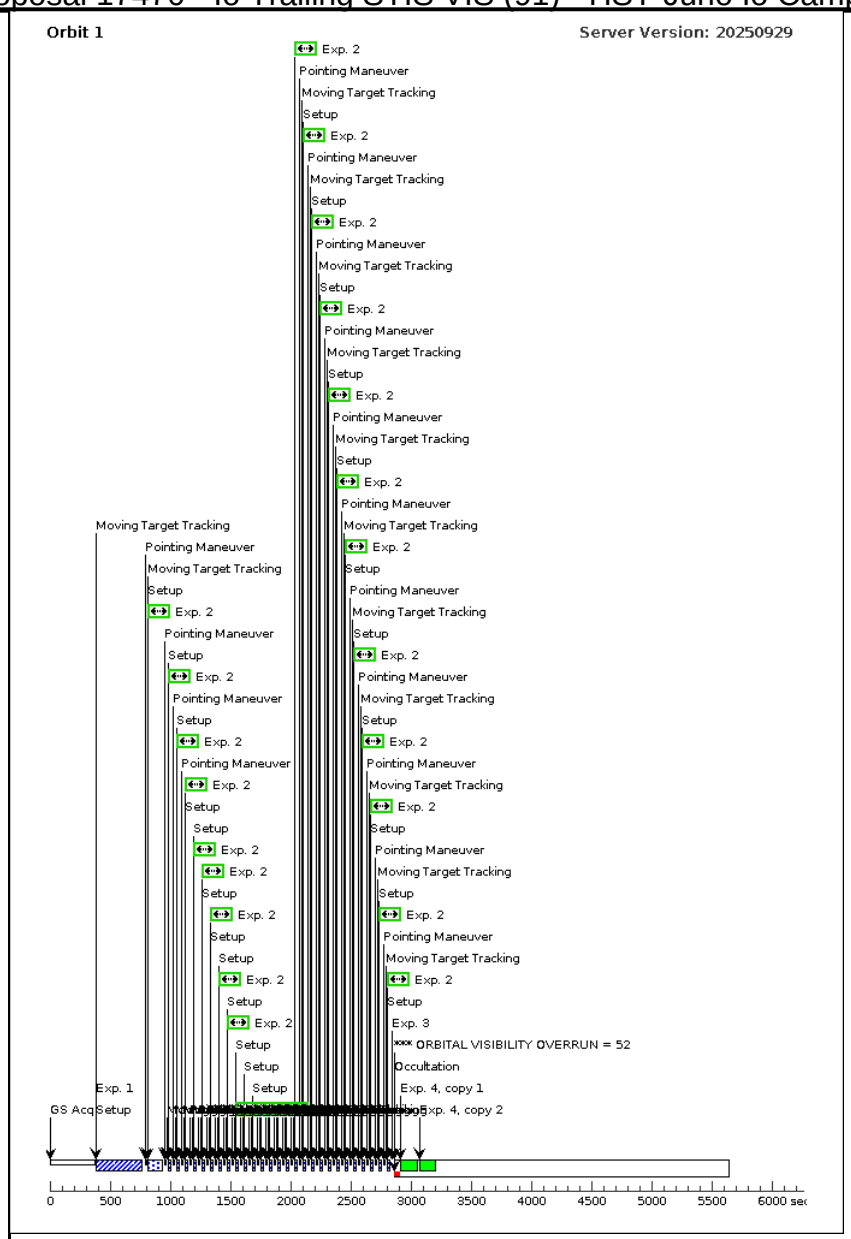
Comments: Was OLG 260 TO 280 but expanded to help with scheduling.
Copy of target 81 to be used with visit 91.
Description=SATELLITE IO
Extended=YES

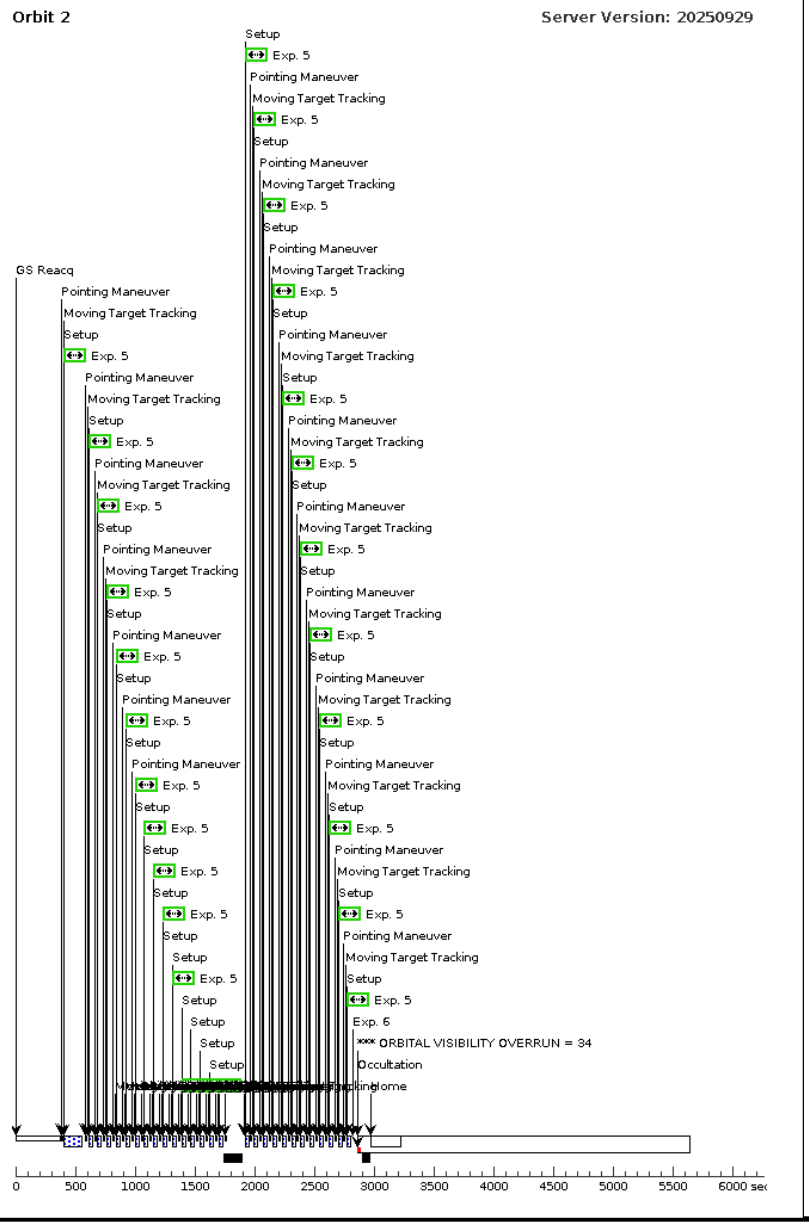
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Io acquisition	(91) IO-SURFACE-STIS-VIS-TRAILING2	STIS/CCD, ACQ, F28X50LP	MIRROR	ACQTYPE=DIFFUSE; CHECKBOX=23; DIFFUSE-CENTER=GEOMETRIC-CENTER		Sequence 1-2 Non-Int in Io Trailing STIS VIS (91)	0.3 Secs (0.3 Secs) *[==>]*	*[1]*
2		(91) IO-SURFACE-STIS-VIS-TRAILING2	STIS/CCD, ACCUM, 52X0.05	G750L 7751 A	SIZEAXIS2=80; CR-SPLIT=NO; WAVECAL=NO		Sequence 1-2 Non-Int in Io Trailing STIS VIS (91) Pattern 1, Exps 2-2 in Sequence 1-2 Non-Int in Io Trailing STIS VIS (91) (1)	9 Secs (252 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]* *[==>(Pattern 5)]* *[==>(Pattern 6)]* *[==>(Pattern 7)]* *[==>(Pattern 8)]* *[==>(Pattern 9)]* *[==>(Pattern 10)]* *[==>(Pattern 11)]* *[==>(Pattern 12)]* *[==>(Pattern 13)]* *[==>(Pattern 14)]* *[==>(Pattern 15)]* *[==>(Pattern 16)]* *[==>(Pattern 17)]* *[==>(Pattern 18)]* *[==>(Pattern 19)]* *[==>(Pattern 20)]* *[==>(Pattern 21)]* *[==>(Pattern 22)]* *[==>(Pattern 23)]* *[==>(Pattern 24)]* *[==>(Pattern 25)]* *[==>(Pattern 26)]* *[==>(Pattern 27)]* *[==>(Pattern 28)]*	*[1]*
3	Wavecal for G750L	WAVE	STIS/CCD, ACCUM, 52X0.05	G750L 7751 A				*[==>]*	*[1]*
4	Fringe flat for G750L	CCDFLAT	STIS/CCD, ACCUM, 52X0.05	G750L 7751 A				*[==>(Copy 1)]* *[==>(Copy 2)]*	*[1]*

5	G430L slit-step pattern	(91) IO-SURFACE-STIS-VIS-TRAILING2	STIS/CCD, ACCUM, 52X0.05	G430L 4300 A	SIZEAXIS2=80; CR-SPLIT=NO; WAVECAL=NO	Sequence 5-5 Non-Int in Io Trailing STIS VIS (91) Pattern 1, Exps 5-5 in Sequence 5-5 Non-Int in Io Trailing STIS VIS (91) (1)	20 Secs (476 Secs) *[==>17.0 Secs (Pattern 1)]* *[==>17.0 Secs (Pattern 2)]* *[==>17.0 Secs (Pattern 3)]* *[==>17.0 Secs (Pattern 4)]* *[==>17.0 Secs (Pattern 5)]* *[==>17.0 Secs (Pattern 6)]* *[==>17.0 Secs (Pattern 7)]* *[==>17.0 Secs (Pattern 8)]* *[==>17.0 Secs (Pattern 9)]* *[==>17.0 Secs (Pattern 10)]* *[==>17.0 Secs (Pattern 11)]* *[==>17.0 Secs (Pattern 12)]* *[==>17.0 Secs (Pattern 13)]* *[==>17.0 Secs (Pattern 14)]* *[==>17.0 Secs (Pattern 15)]* *[==>17.0 Secs (Pattern 16)]* *[==>17.0 Secs (Pattern 17)]* *[==>17.0 Secs (Pattern 18)]* *[==>17.0 Secs (Pattern 19)]* *[==>17.0 Secs (Pattern 20)]* *[==>17.0 Secs (Pattern 21)]* *[==>17.0 Secs (Pattern 22)]* *[==>17.0 Secs (Pattern 23)]* *[==>17.0 Secs (Pattern 24)]* *[==>17.0 Secs (Pattern 25)]* *[==>17.0 Secs (Pattern 26)]* *[==>17.0 Secs (Pattern 27)]* *[==>17.0 Secs (Pattern 28)]*	***[2]***
6	Wavecal for G430L	WAVE	STIS/CCD, ACCUM, 52X0.05	G430L 4300 A			*[==>]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20250929
GS Reacq
Pointing Maneuver
Moving Target Tracking
Setup
Exp. 5
Exp. 6
*** ORBITAL VISIBILITY OVERRUN = 34
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17470, IO-SURFACE-STIS-FUV-45 (82), implementation Wed Dec 31 16:02:12 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%

Diagnostics

(IO-SURFACE-STIS-FUV-45 (82)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(IO-SURFACE-STIS-FUV-45 (82)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(IO-SURFACE-STIS-FUV-45-Orbit1 (82.002) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

(IO-SURFACE-STIS-FUV-45-Orbit2 (82.003) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

(IO-SURFACE-STIS-FUV-45 (82)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(14)	Pattern Type=STIS-PERP-TO-SLIT Purpose=MOSAIC Number Of Points=5 Point Spacing=0.1 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=0.0 Angle Between Sides= Center Pattern=true		(3)
(5)	Pattern Type=STIS-PERP-TO-SLIT Purpose=MOSAIC Number Of Points=4 Point Spacing=0.1 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=0.0 Angle Between Sides= Center Pattern=true		(2)

Solar System Targets

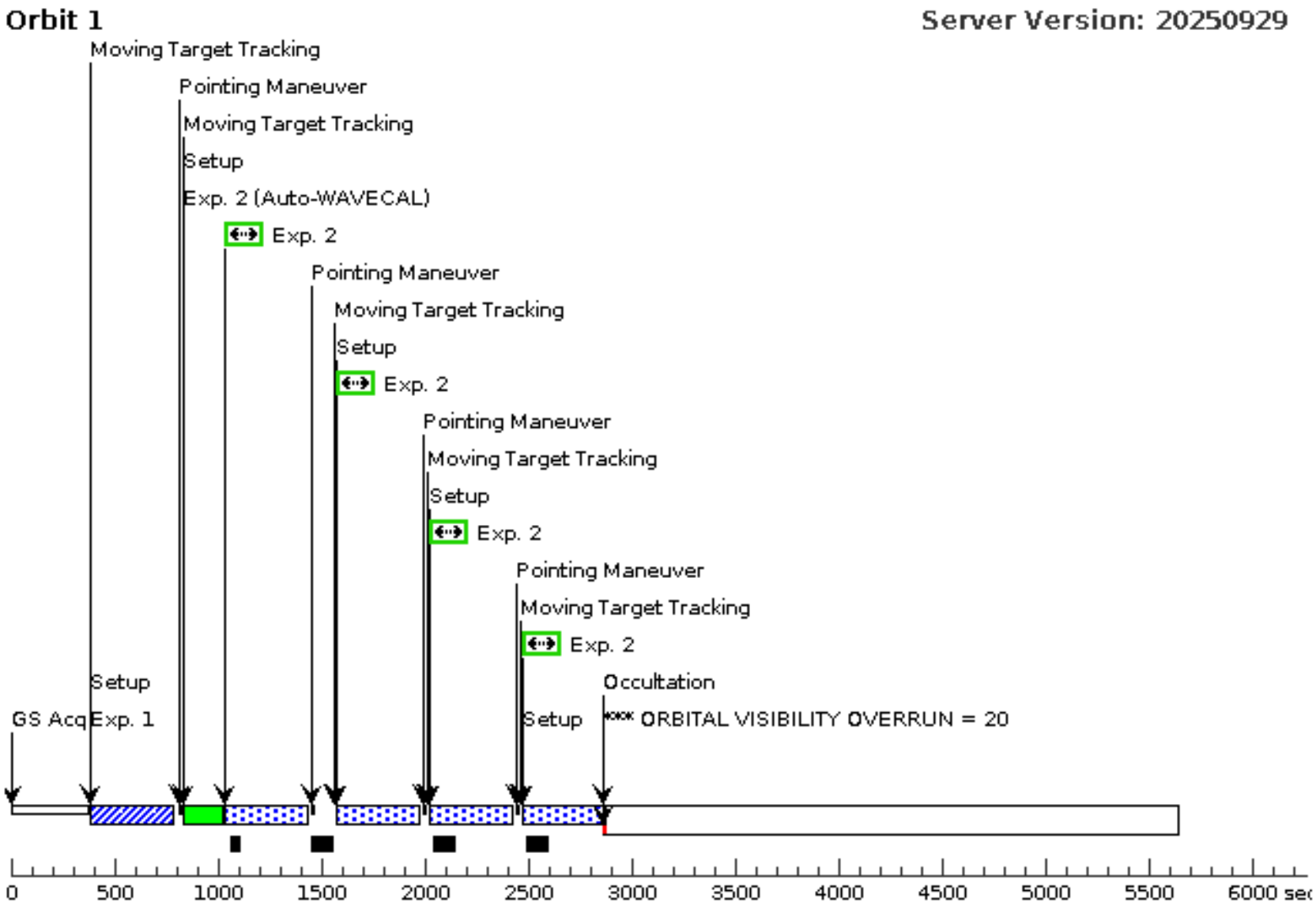
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(82)	IO-SURFACE-STIS-FUV-45	STD=JUPITER	STD=IO		NOT OCC OF IO-SURFACE-STIS-FUV-45 BY JUPITER FROM EARTH, SEP OF IO-SURFACE-STIS-FUV-45 EUROPA FROM EARTH GT 10", SEP OF IO-SURFACE-STIS-FUV-45 GANYMEDE FROM EARTH GT 10", SEP OF IO-SURFACE-STIS-FUV-45 CALLISTO FROM EARTH GT 10", CML OF IO-SURFACE-STIS-FUV-45 FROM EARTH BETWEEN 30 63	EARTH

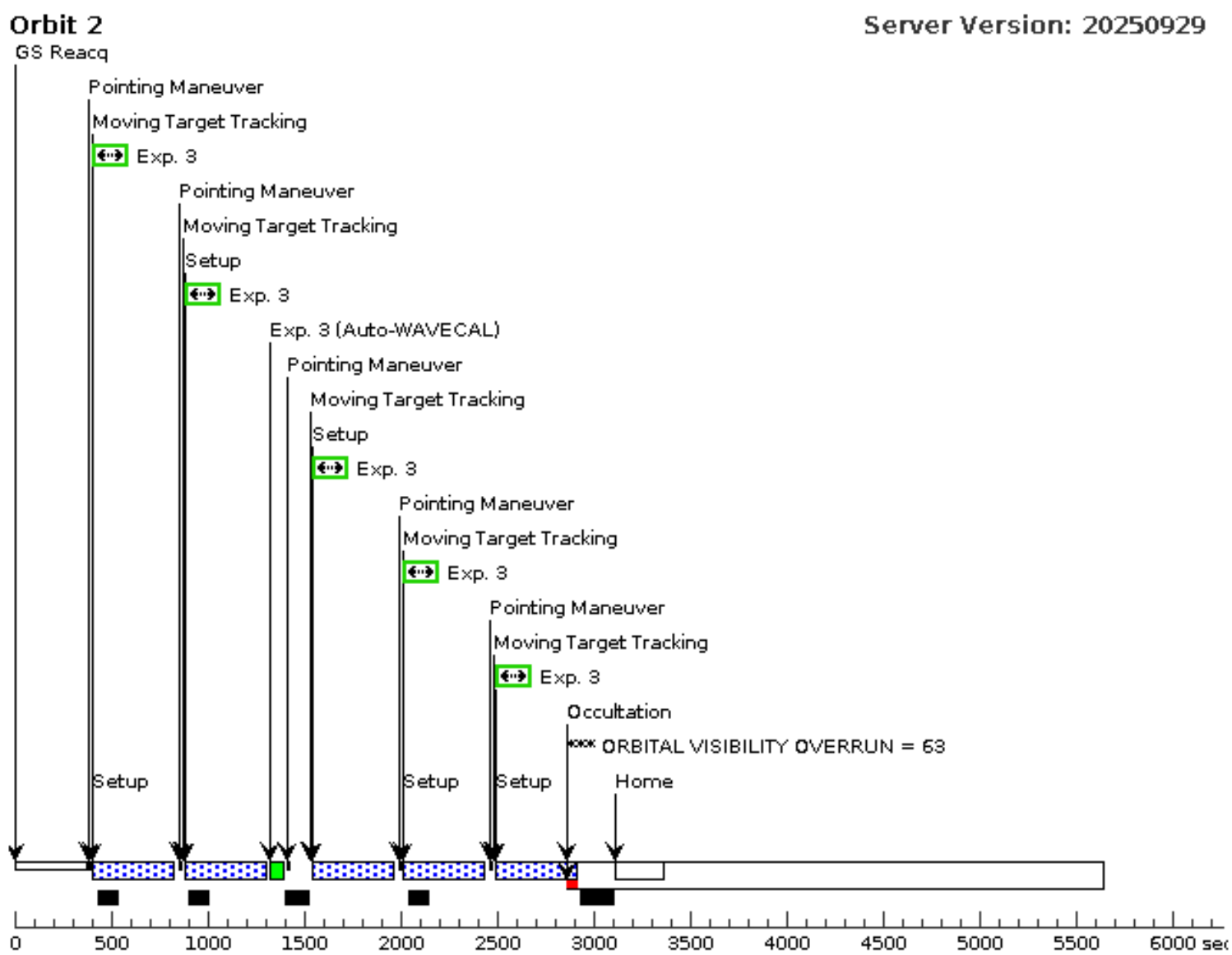
Comments: Was CML 45+/-10 but expanded to help with scheduling.
Description=Io UV reflectance STIS G140L 52x0.2 step-scan image
Extended=YES

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (1890774)	(82) IO-SURFACE-STIS-FUV-45	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=25; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER		Sequence 1-2 Non-Int in IO-SURFACE-STIS-FUV-45 (82)	0.3 Secs (0.3 Secs) *[==>]*	***[1]***
Comments: Visit planned for Dec 2, 2023. Io diameter is 1.22 and CHECKBOX thus 1.22/0.05 = 24.4 ~ 25									
2	IO-SURFACE-STIS-FUV-45-Orbit1 (STIS.sp.1890787)	(82) IO-SURFACE-STIS-FUV-45	STIS/FUV-MAMA, ACCUM, 52X0.2D1	G140L 1425 A		POS TARG -0.25,null	Sequence 1-2 Non-Int in IO-SURFACE-STIS-FUV-45 (82) Pattern 5, Exps 2-2 in Sequence 1-2 Non-Int in IO-SURFACE-STIS-FUV-45 (82) (5)	390 Secs (1544 Secs) *[==>386.0 Secs (Pattern 1)]* *[==>386.0 Secs (Pattern 2)]* *[==>386.0 Secs (Pattern 3)]* *[==>386.0 Secs (Pattern 4)]*	***[1]***
3	IO-SURFACE-STIS-FUV-45-Orbit2 (1890591)	(82) IO-SURFACE-STIS-FUV-45	STIS/FUV-MAMA, ACCUM, 52X0.2D1	G140L 1425 A		POS TARG +0.2,null	Sequence 3-3 Non-Int in IO-SURFACE-STIS-FUV-45 (82) Pattern 14, Exps 3-3 in Sequence 3-3 Non-Int in IO-SURFACE-STIS-FUV-45 (82) (14)	390 Secs (2050 Secs) *[==>410.0 Secs (Pattern 1)]* *[==>410.0 Secs (Pattern 2)]* *[==>410.0 Secs (Pattern 3)]* *[==>410.0 Secs (Pattern 4)]* *[==>410.0 Secs (Pattern 5)]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20250929
GS Reacq
Pointing Maneuver
Moving Target Tracking
Exp. 3
Pointing Maneuver
Moving Target Tracking
Setup
Exp. 3
Exp. 3 (Auto-WAVECAL)
Pointing Maneuver
Moving Target Tracking
Setup
Exp. 3
Pointing Maneuver
Moving Target Tracking
Exp. 3
Pointing Maneuver
Moving Target Tracking
Exp. 3
Occultation
*** ORBITAL VISIBILITY OVERRUN = 63
Setup
Setup
Setup
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17470, IO-SURFACE-STIS-FUV-135 (83), completed Wed Dec 31 16:02:12 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%

Diagnostics

(IO-SURFACE-STIS-FUV-135 (83)) Warning (Orbit Planner): GS ACQ SCENARIO REQUESTED INCONSISTENT WITH VISIT GYRO MODE

(IO-SURFACE-STIS-FUV-135 (83)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(IO-SURFACE-STIS-FUV-135 (83)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(ACQ (83.001) special requirements) Warning (Form): The specified GS Acq Scenario is not in the current list of valid scenarios.

(IO-SURFACE-STIS-FUV-45-Orbit1 (83.002) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

(IO-SURFACE-STIS-FUV-45-Orbit2 (83.003) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

(IO-SURFACE-STIS-FUV-135 (83)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(14)	Pattern Type=STIS-PERP-TO-SLIT Purpose=MOSAIC Number Of Points=5 Point Spacing=0.1 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=0.0 Angle Between Sides= Center Pattern=true		(3)
(5)	Pattern Type=STIS-PERP-TO-SLIT Purpose=MOSAIC Number Of Points=4 Point Spacing=0.1 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=0.0 Angle Between Sides= Center Pattern=true		(2)

Solar System Targets

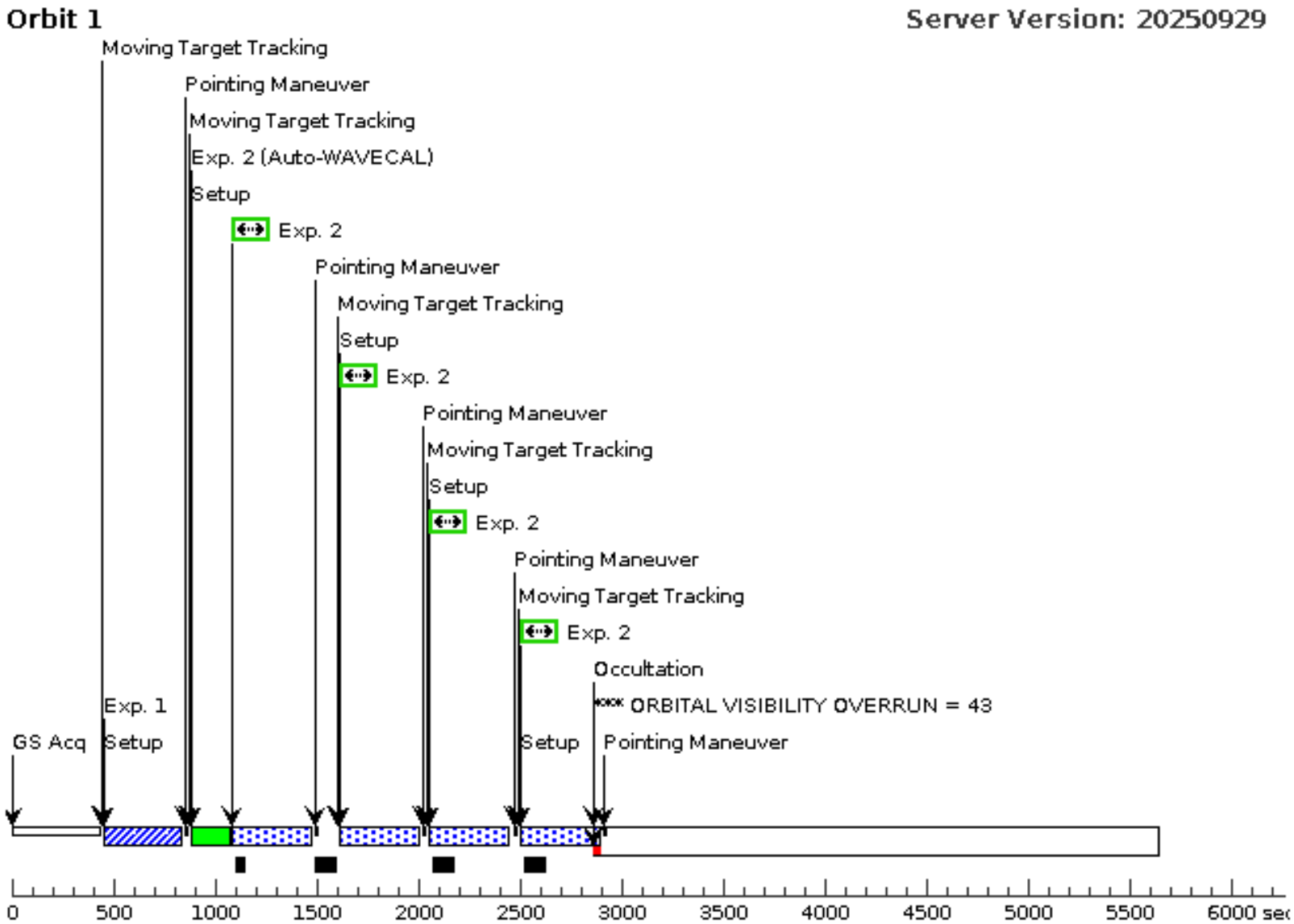
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(83)	IO-SURFACE-STIS-FUV-135	STD=JUPITER	STD=IO		NOT OCC OF IO-SURFACE-STIS-FUV-135 BY JUPITER FROM EARTH, SEP OF IO-SURFACE-STIS-FUV-135 EUROPA FROM EARTH GT 10", SEP OF IO-SURFACE-STIS-FUV-135 GANYMEDE FROM EARTH GT 10", SEP OF IO-SURFACE-STIS-FUV-135 CALLISTO FROM EARTH GT 10", CML OF IO-SURFACE-STIS-FUV-135 FROM EARTH BETWEEN 120 150	EARTH

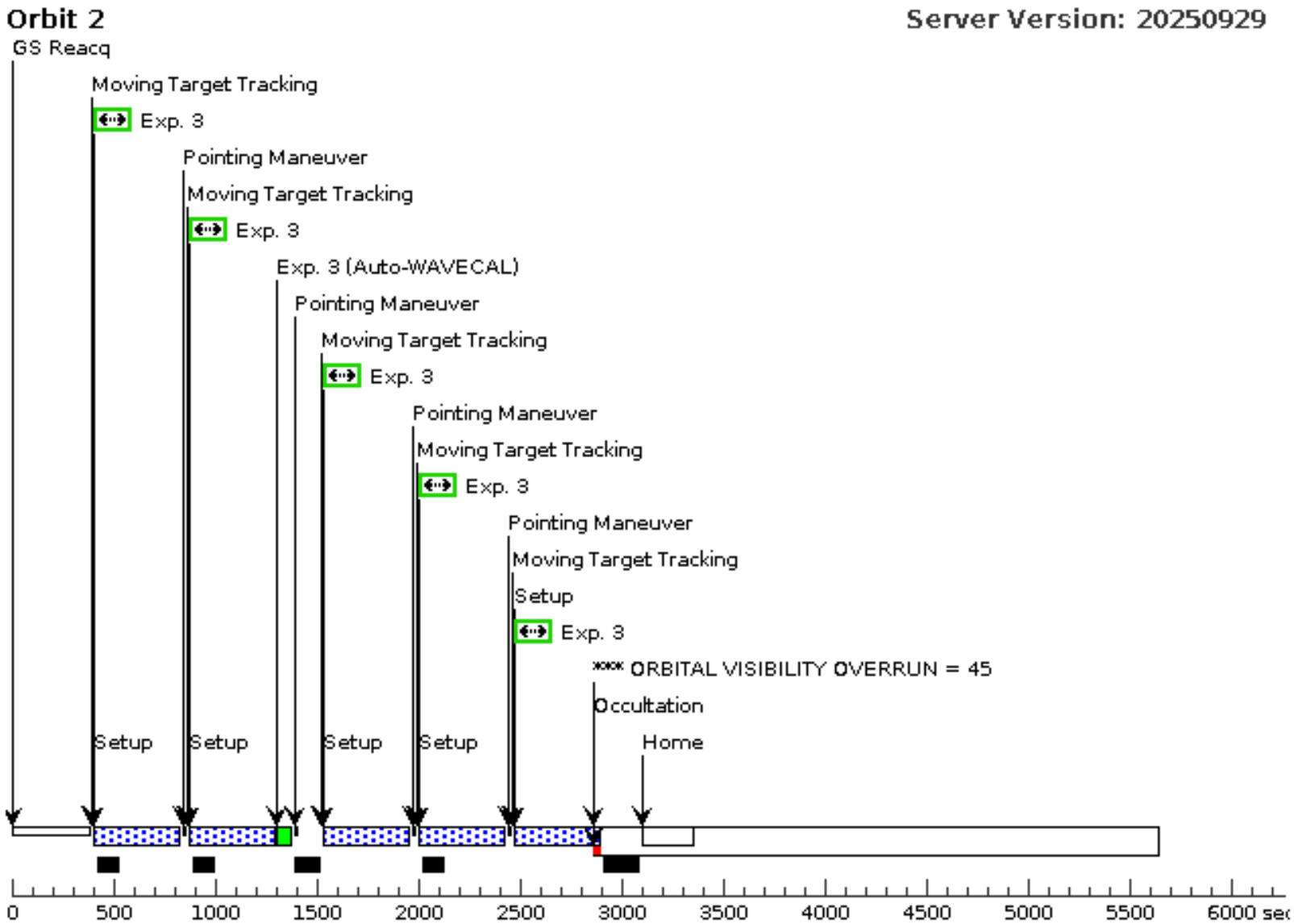
Comments: Was CML 135+/-10 but expanded to help with scheduling.
Description=Io UV reflectance STIS G140L 52x0.2 step-scan image
Extended=YES

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (1890774)	(83) IO-SURFACE-STIS-FUV-135	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=23; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER	GS ACQ SCENARIO BASE1BR	Sequence 1-1 Non-Int in IO-SURFACE-STIS-FUV-135 (83)	0.3 Secs (0.3 Secs) *[==>]*	***[1]***
2	IO-SURFACE-STIS-FUV-45-Orbit1 (STIS.sp.1890787)	(83) IO-SURFACE-STIS-FUV-135	STIS/FUV-MAMA, ACCUM, 52X0.2D1	G140L 1425 A		POS TARG -0.25,null	Pattern 5, Exps 2-2 in IO-SURFACE-STIS-FUV-135 (83) (5)	390 Secs (1524 Secs) *[==>381.0 Secs (Pattern 1)]* *[==>381.0 Secs (Pattern 2)]* *[==>381.0 Secs (Pattern 3)]* *[==>381.0 Secs (Pattern 4)]*	***[1]***
3	IO-SURFACE-STIS-FUV-45-Orbit2 (1890591)	(83) IO-SURFACE-STIS-FUV-135	STIS/FUV-MAMA, ACCUM, 52X0.2D1	G140L 1425 A		POS TARG +0.2,null	Pattern 14, Exps 3-3 in IO-SURFACE-STIS-FUV-135 (83) (14)	390 Secs (2040 Secs) *[==>408.0 Secs (Pattern 1)]* *[==>408.0 Secs (Pattern 2)]* *[==>408.0 Secs (Pattern 3)]* *[==>408.0 Secs (Pattern 4)]* *[==>408.0 Secs (Pattern 5)]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20250929
GS Reacq
Moving Target Tracking
Exp. 3
Pointing Maneuver
Moving Target Tracking
Exp. 3
Exp. 3 (Auto-WAVECAL)
Pointing Maneuver
Moving Target Tracking
Exp. 3
Pointing Maneuver
Moving Target Tracking
Exp. 3
Pointing Maneuver
Moving Target Tracking
Setup
Exp. 3
*** ORBITAL VISIBILITY OVERRUN = 45
Occultation
Setup
Setup
Setup
Setup
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17470, IO-SURFACE-STIS-FUV-225 (84), completed Wed Dec 31 16:02:12 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%

Diagnostics

(IO-SURFACE-STIS-FUV-225 (84)) Warning (Orbit Planner): GS ACQ SCENARIO REQUESTED INCONSISTENT WITH VISIT GYRO MODE

(IO-SURFACE-STIS-FUV-225 (84)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(IO-SURFACE-STIS-FUV-225 (84)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(ACQ (84.001) special requirements) Warning (Form): The specified GS Acq Scenario is not in the current list of valid scenarios.

(IO-SURFACE-STIS-FUV-45-Orbit1 (84.002) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

(IO-SURFACE-STIS-FUV-45-Orbit2 (84.003) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

(IO-SURFACE-STIS-FUV-225 (84)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(14)	Pattern Type=STIS-PERP-TO-SLIT Purpose=MOSAIC Number Of Points=5 Point Spacing=0.1 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=0.0 Angle Between Sides= Center Pattern=true		(3)
(5)	Pattern Type=STIS-PERP-TO-SLIT Purpose=MOSAIC Number Of Points=4 Point Spacing=0.1 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=0.0 Angle Between Sides= Center Pattern=true		(2)

Solar System Targets

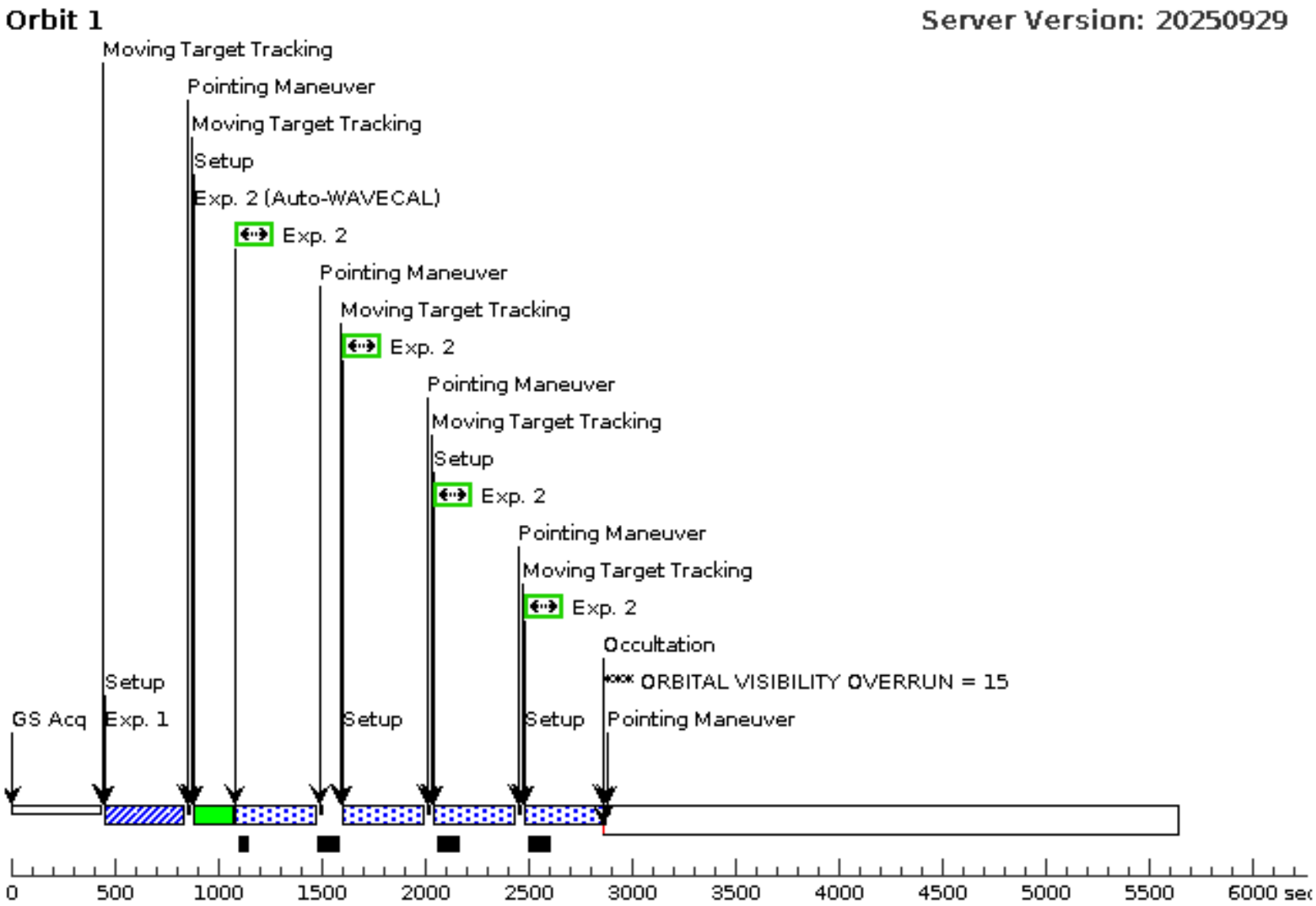
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(84)	IO-SURFACE-STIS-FUV-225	STD=JUPITER	STD=IO		NOT OCC OF IO-SURFACE-STIS-FUV-225 BY JUPITER FROM EARTH, SEP OF IO-SURFACE-STIS-FUV-225 EUROPA FROM EARTH GT 10", SEP OF IO-SURFACE-STIS-FUV-225 GANYMEDE FROM EARTH GT 10", SEP OF IO-SURFACE-STIS-FUV-225 CALLISTO FROM EARTH GT 10", CML OF IO-SURFACE-STIS-FUV-225 FROM EARTH BETWEEN 210 240	EARTH

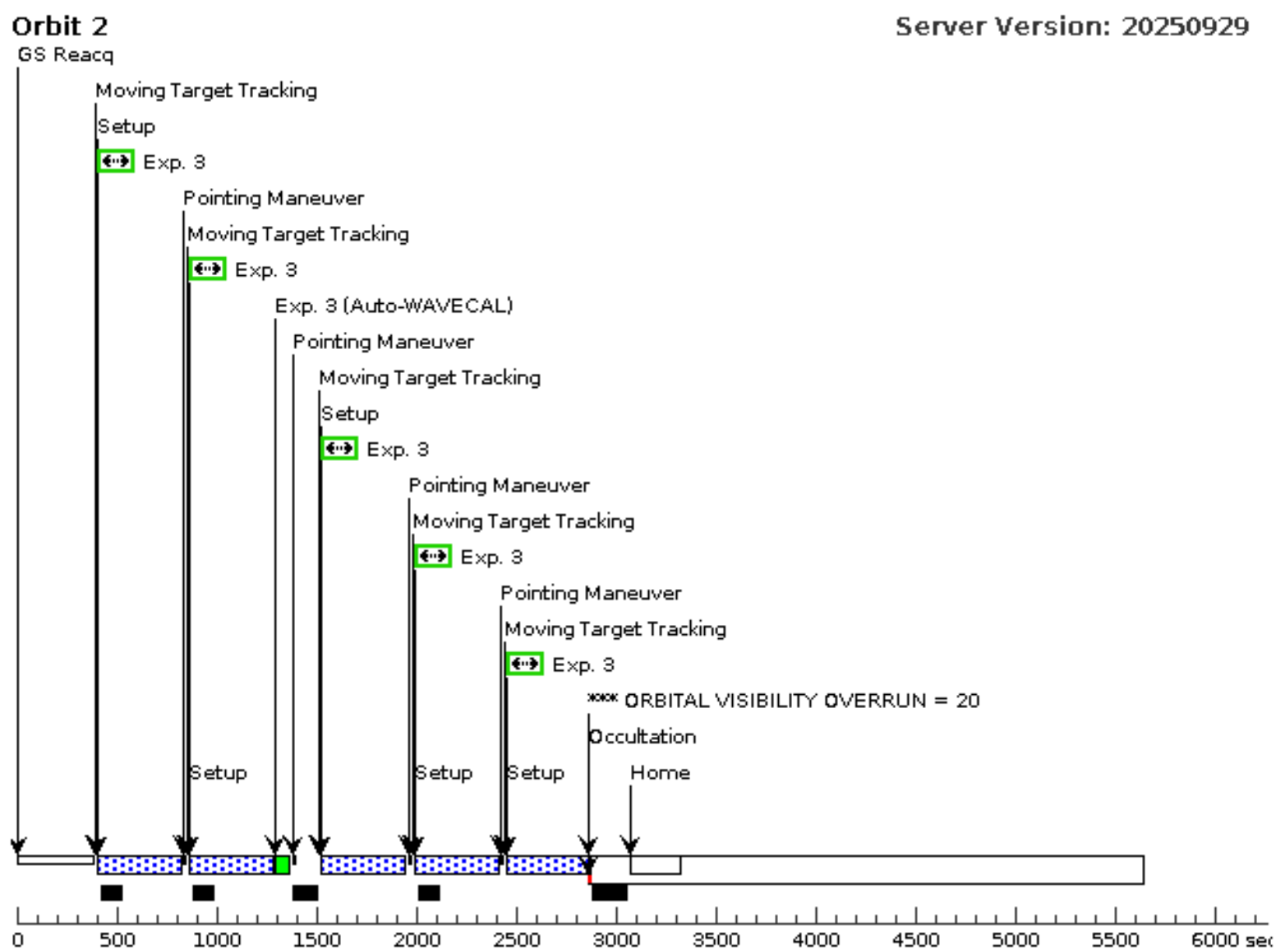
Comments: Was CML 225+/-10 but expanded to help with scheduling.
Description=Io UV reflectance STIS G140L 52x0.2 step-scan image
Extended=YES

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (1890774)	(84) IO-SURFACE-STIS-FUV-225	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=23; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER	GS ACQ SCENARIO BASE1BR	Sequence 1-1 Non-Int in IO-SURFACE-STIS-FUV-225 (84)	0.3 Secs (0.3 Secs) *[==>]*	***[1]***
2	IO-SURFACE-STIS-FUV-45-Orbit1 (STIS.sp.1890787)	(84) IO-SURFACE-STIS-FUV-225	STIS/FUV-MAMA, ACCUM, 52X0.2D1	G140L 1425 A		POS TARG -0.2,null	Pattern 5, Exps 2-2 in IO-SURFACE-STIS-FUV-225 (84) (5)	374 Secs (1496 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
3	IO-SURFACE-STIS-FUV-45-Orbit2 (1890591)	(84) IO-SURFACE-STIS-FUV-225	STIS/FUV-MAMA, ACCUM, 52X0.2D1	G140L 1425 A		POS TARG +0.25,null	Pattern 14, Exps 3-3 in IO-SURFACE-STIS-FUV-225 (84) (14)	403 Secs (2015 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]* *[==>(Pattern 5)]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20250929
GS Reacq
Moving Target Tracking
Setup
Exp. 3
Pointing Maneuver
Moving Target Tracking
Exp. 3
Exp. 3 (Auto-WAVECAL)
Pointing Maneuver
Moving Target Tracking
Setup
Exp. 3
Pointing Maneuver
Moving Target Tracking
Exp. 3
Pointing Maneuver
Moving Target Tracking
Exp. 3
*** ORBITAL VISIBILITY OVERRUN = 20
Occultation
Setup
Setup
Setup
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17470, IO-SURFACE-STIS-FUV-315 (85), implementation Wed Dec 31 16:02:12 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: SCHED 100%

Diagnostics

(IO-SURFACE-STIS-FUV-315 (85)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(IO-SURFACE-STIS-FUV-315 (85)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(IO-SURFACE-STIS-FUV-45-Orbit1 (85.002) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

(IO-SURFACE-STIS-FUV-45-Orbit2 (85.003) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

(IO-SURFACE-STIS-FUV-315 (85)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(14)	Pattern Type=STIS-PERP-TO-SLIT Purpose=MOSAIC Number Of Points=5 Point Spacing=0.1 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=0.0 Angle Between Sides= Center Pattern=true		(3)
(5)	Pattern Type=STIS-PERP-TO-SLIT Purpose=MOSAIC Number Of Points=4 Point Spacing=0.1 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=0.0 Angle Between Sides= Center Pattern=true		(2)

Solar System Targets

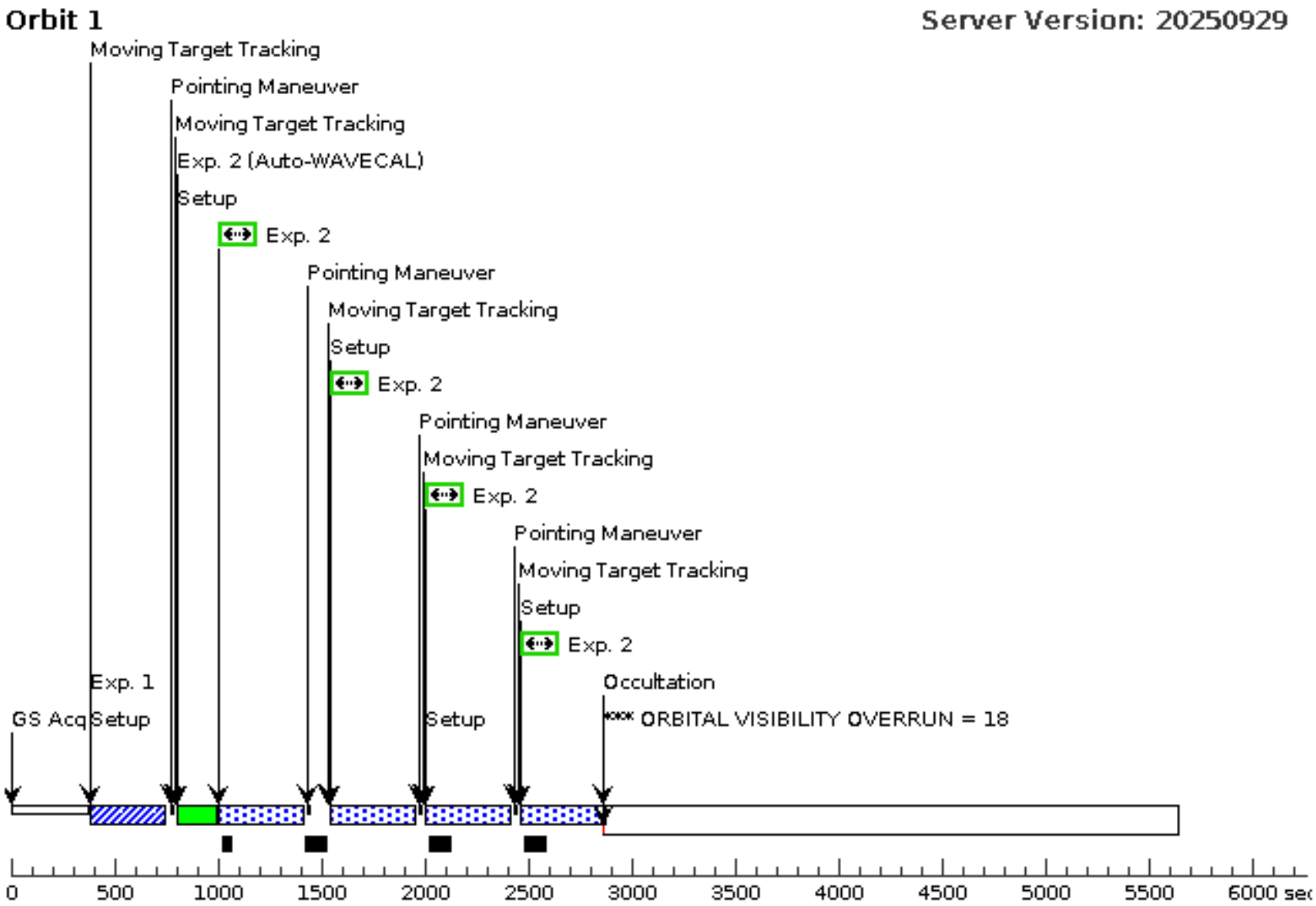
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(85)	IO-SURFACE-STIS-FUV-315	STD=JUPITER	STD=IO		NOT OCC OF IO-SURFACE-STIS-FUV-315 BY JUPITER FROM EARTH, SEP OF IO-SURFACE-STIS-FUV-315 EUROPA FROM EARTH GT 10", SEP OF IO-SURFACE-STIS-FUV-315 GANYMEDE FROM EARTH GT 10", SEP OF IO-SURFACE-STIS-FUV-315 CALLISTO FROM EARTH GT 10", CML OF IO-SURFACE-STIS-FUV-315 FROM EARTH BETWEEN 300 330	EARTH

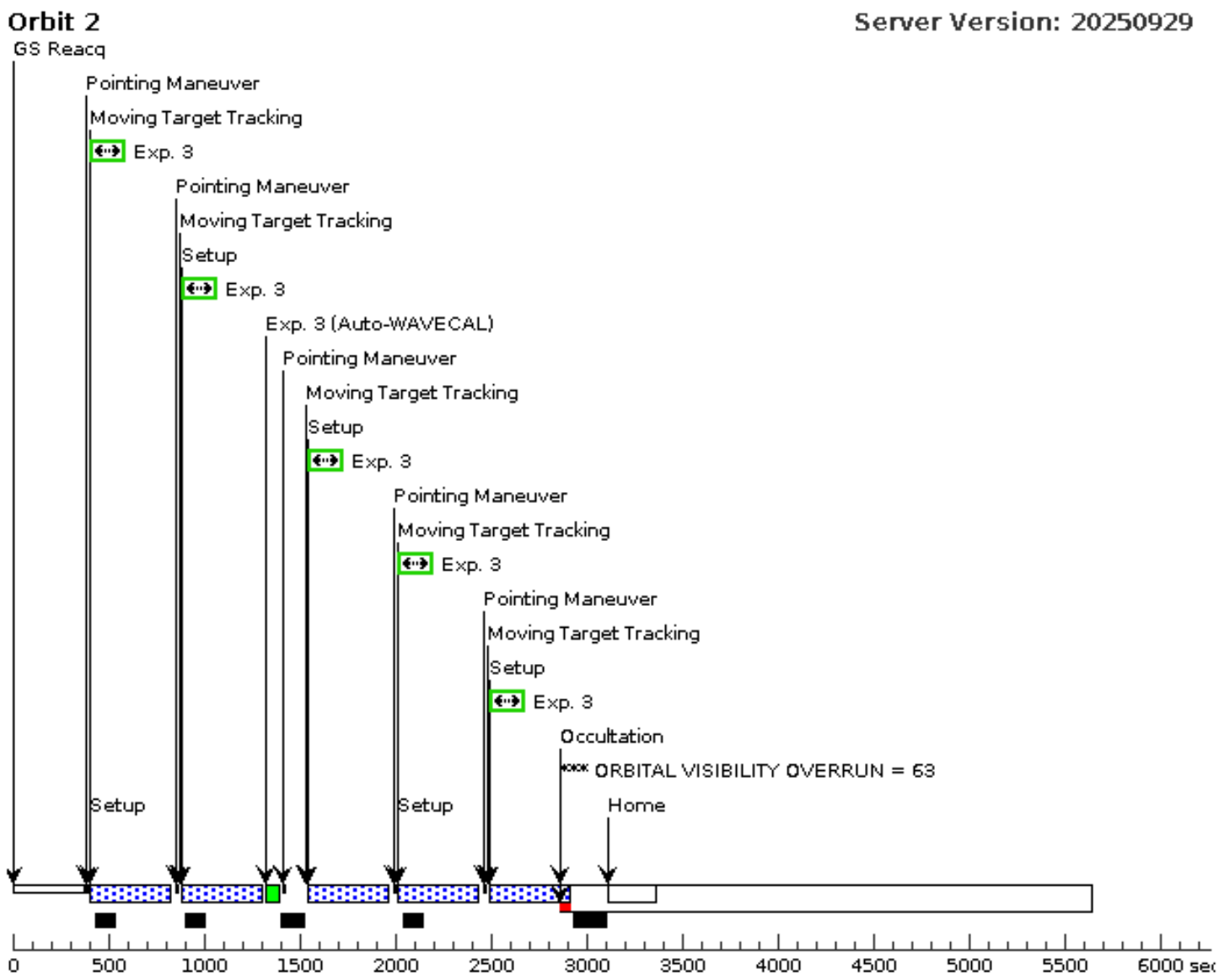
Comments: Was CML 315+/-10 but expanded to help with scheduling.
Description=Io UV reflectance STIS G140L 52x0.2 step-scan image
Extended=YES

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ (1890774)	(85) IO-SURFACE-STIS-FUV-315	STIS/CCD, ACQ, F28X50LP	MIRROR	CHECKBOX=21; ACQTYPE=DIFFUSE; DIFFUSE-CENTER=GEOMETRIC-CENTER		Sequence 1-1 Non-Int in IO-SURFACE-STIS-FUV-315 (85)	0.3 Secs (0.3 Secs) *[==>]*	***[1]***
2	IO-SURFACE-STIS-FUV-45-Orbit1 (STIS.sp.1890787)	(85) IO-SURFACE-STIS-FUV-315	STIS/FUV-MAMA, ACCUM, 52X0.2D1	G140L 1425 A		POS TARG -0.25,null	Pattern 5, Exps 2-2 in IO-SURFACE-STIS-FUV-315 (85) (5)	390 Secs (1580 Secs) *[==>395.0 Secs (Pattern 1)]* *[==>395.0 Secs (Pattern 2)]* *[==>395.0 Secs (Pattern 3)]* *[==>395.0 Secs (Pattern 4)]*	***[1]***
3	IO-SURFACE-STIS-FUV-45-Orbit2 (1890591)	(85) IO-SURFACE-STIS-FUV-315	STIS/FUV-MAMA, ACCUM, 52X0.2D1	G140L 1425 A		POS TARG +0.2,null	Pattern 14, Exps 3-3 in IO-SURFACE-STIS-FUV-315 (85) (14)	390 Secs (2050 Secs) *[==>410.0 Secs (Pattern 1)]* *[==>410.0 Secs (Pattern 2)]* *[==>410.0 Secs (Pattern 3)]* *[==>410.0 Secs (Pattern 4)]* *[==>410.0 Secs (Pattern 5)]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20250929
GS Reacq
Pointing Maneuver
Moving Target Tracking
Exp. 3
Pointing Maneuver
Moving Target Tracking
Setup
Exp. 3
Exp. 3 (Auto-WAVECAL)
Pointing Maneuver
Moving Target Tracking
Setup
Exp. 3
Pointing Maneuver
Moving Target Tracking
Exp. 3
Pointing Maneuver
Moving Target Tracking
Setup
Exp. 3
Occultation
*** ORBITAL VISIBILITY OVERRUN = 63
Setup
Setup
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17470, Io Surface COS Leading (86), completed Wed Dec 31 16:02:12 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; BETWEEN 16-SEP-2024:10:35:00 AND 16-SEP-2024:13:05:00

Diagnostics

(Io Surface COS Leading (86)) Warning (Orbit Planner): INEFFICIENT ORDERING OF FP-POS POSITIONS

(Io Surface COS Leading (86)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Io Surface COS Leading (86)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Exposure 2 (Io Surface COS Leading (86))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 3 (Io Surface COS Leading (86))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Io Surface COS Leading (86)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(86)	IO-SURFACE-COS-LEADING	STD=JUPITER	STD=IO		NOT OCC OF IO-SURFACE-COS-LEADING BY JUPITER FROM EARTH, SEP OF IO-SURFACE-COS-LEADING EUROPA FROM EARTH GT 10", SEP OF IO-SURFACE-COS-LEADING GANYMEDE FROM EARTH GT 10", SEP OF IO-SURFACE-COS-LEADING CALLISTO FROM EARTH GT 10", OLG OF IO-SURFACE-COS-LEADING BETWEEN 45 135	EARTH

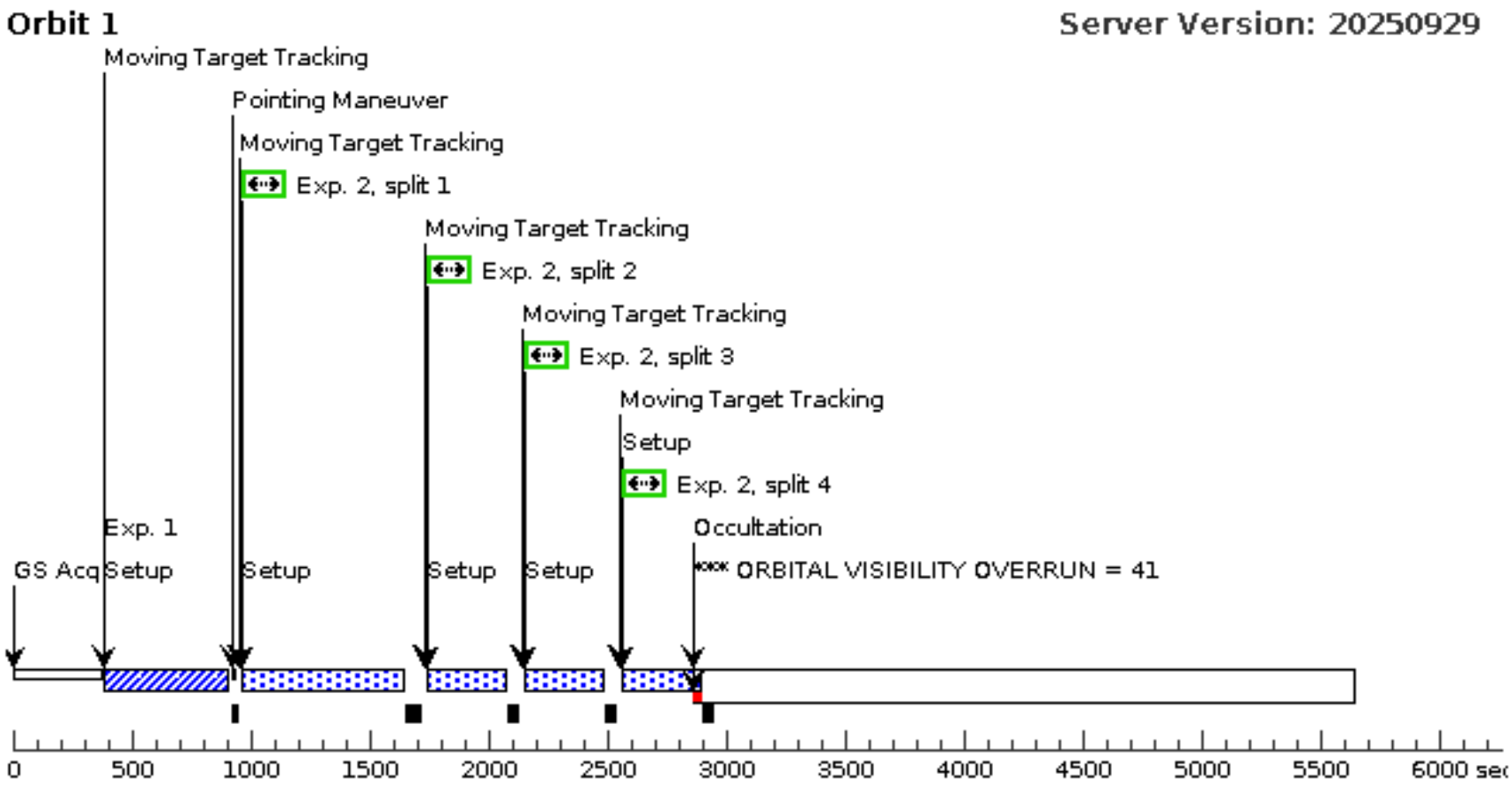
Comments: Description=Io EUV reflectance COS spectra
Extended=YES

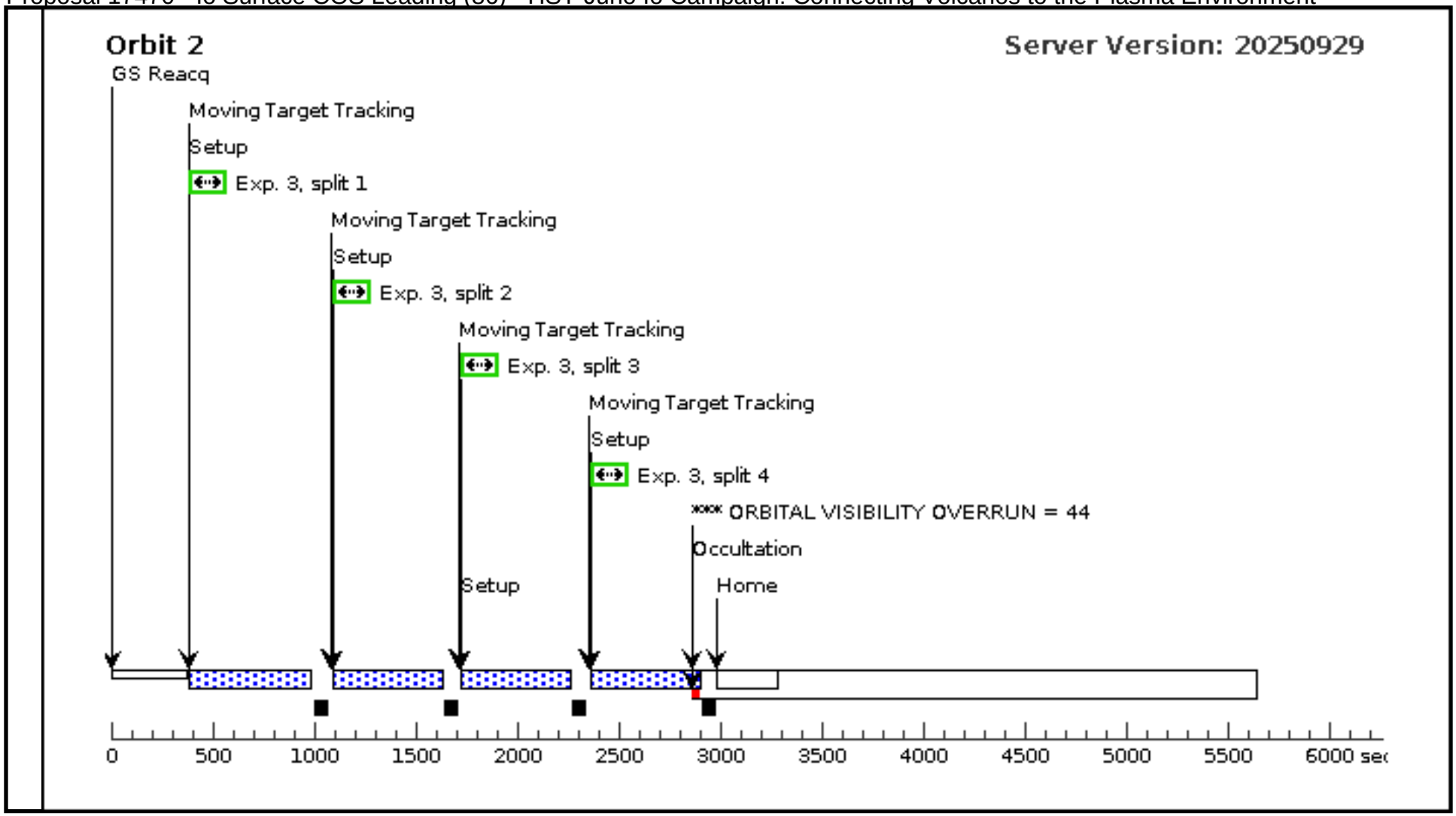
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.sa.1010061)	(86) IO-SURFACE-COS-LEADING	COS/NUV, ACQ/SEARCH, PSA	G230L 3000 A	SCAN-SIZE=3; CENTER=FLUX-WT-FLR			1 Secs (1 Secs) *[==>]*	*[1]*
2	(COS.sp.1010060)	(86) IO-SURFACE-COS-LEADING	COS/FUV, TIME-TAG, PSA	G130M 1055 A	BUFFER-TIME=1000; FP-POS=ALL; SEGMENT=BOTH			30 Secs (1298 Secs) *[==>464.0 Secs (Split 1)]* *[==>278.0 Secs (Split 2)]* *[==>278.0 Secs (Split 3)]* *[==>278.0 Secs (Split 4)]*	*[1]*
3	(COS.sp.1010060)	(86) IO-SURFACE-COS-LEADING	COS/FUV, TIME-TAG, PSA	G130M 1055 A	BUFFER-TIME=1000; FP-POS=ALL; SEGMENT=BOTH			300 Secs (1932 Secs) *[==>483.0 Secs (Split 1)]* *[==>483.0 Secs (Split 2)]* *[==>483.0 Secs (Split 3)]* *[==>483.0 Secs (Split 4)]*	*[2]*

Comments: This acquisition mode/setup was used successfully used in program 15147

Orbit Structure




Orbit 2
Server Version: 20250929
GS Reacq
Moving Target Tracking
Setup
Exp. 3, split 1
Moving Target Tracking
Setup
Exp. 3, split 2
Moving Target Tracking
Exp. 3, split 3
Moving Target Tracking
Setup
Exp. 3, split 4
*** ORBITAL VISIBILITY OVERRUN = 44
Occultation
Setup
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17470, Io Surface COS Trailing (87), completed Wed Dec 31 16:02:12 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; AFTER 02-AUG-2024:00:00:00

Diagnostics

(Io Surface COS Trailing (87)) Warning (Orbit Planner): INEFFICIENT ORDERING OF FP-POS POSITIONS

(Io Surface COS Trailing (87)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Io Surface COS Trailing (87)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Exposure 2 (Io Surface COS Trailing (87))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Exposure 3 (Io Surface COS Trailing (87))) Warning (Form): COS FUV PSA science exposures with extended targets have special calibration limitations. See "Errors and Warnings" for more details.

(Io Surface COS Trailing (87)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.

Solar System Targets

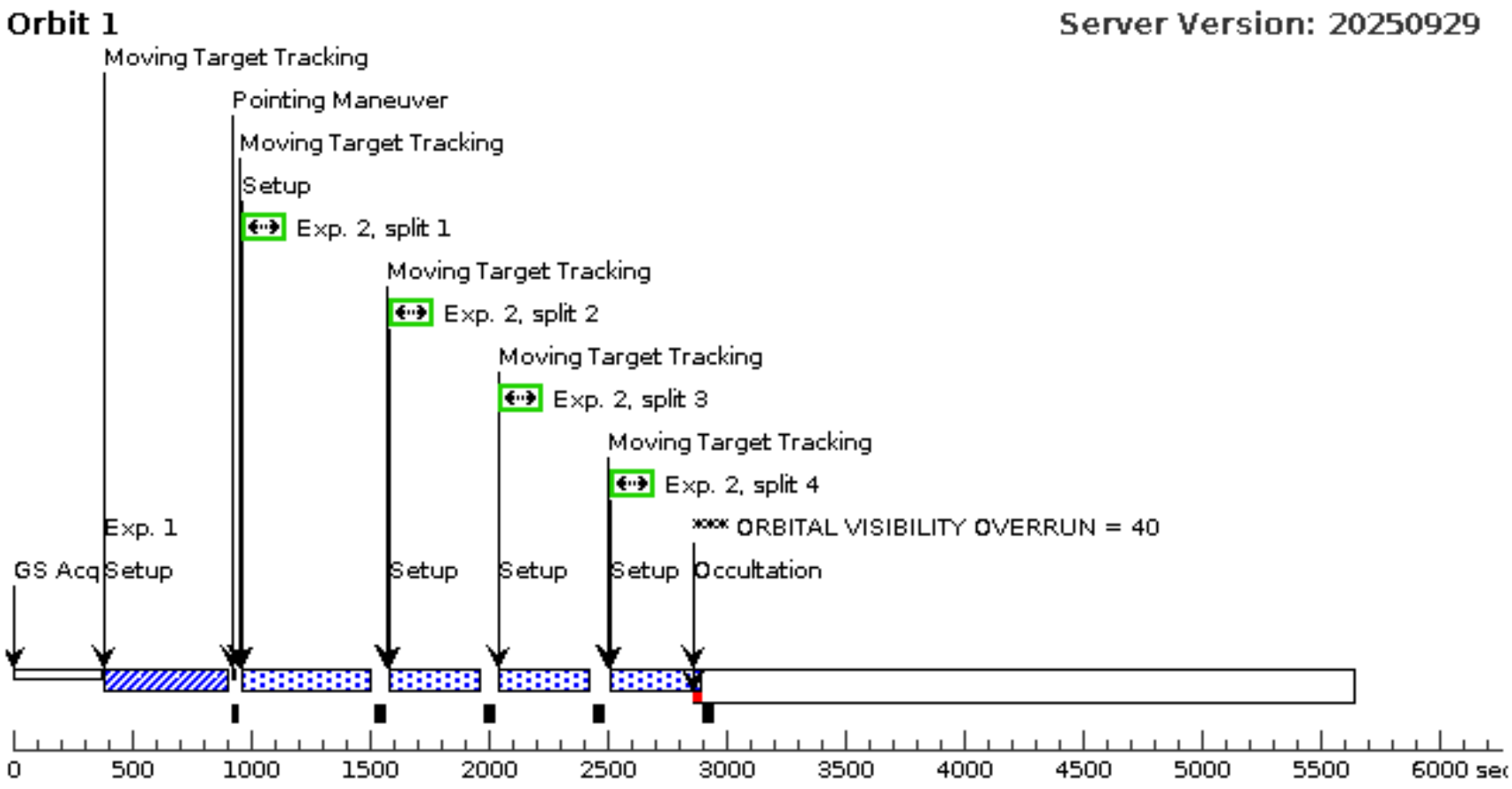
#	Name	Level 1	Level 2	Level 3	Window	Ephem Center
(87)	IO-SURFACE-COS-TRAILING	STD=JUPITER	STD=IO		NOT OCC OF IO-SURFACE-COS-TRAILING BY JUPITER FROM EARTH, SEP OF IO-SURFACE-COS-TRAILING EUROPA FROM EARTH GT 10", SEP OF IO-SURFACE-COS-TRAILING GANYMEDE FROM EARTH GT 10", SEP OF IO-SURFACE-COS-TRAILING CALLISTO FROM EARTH GT 10", OLG OF IO-SURFACE-COS-TRAILING BETWEEN 225 315	EARTH

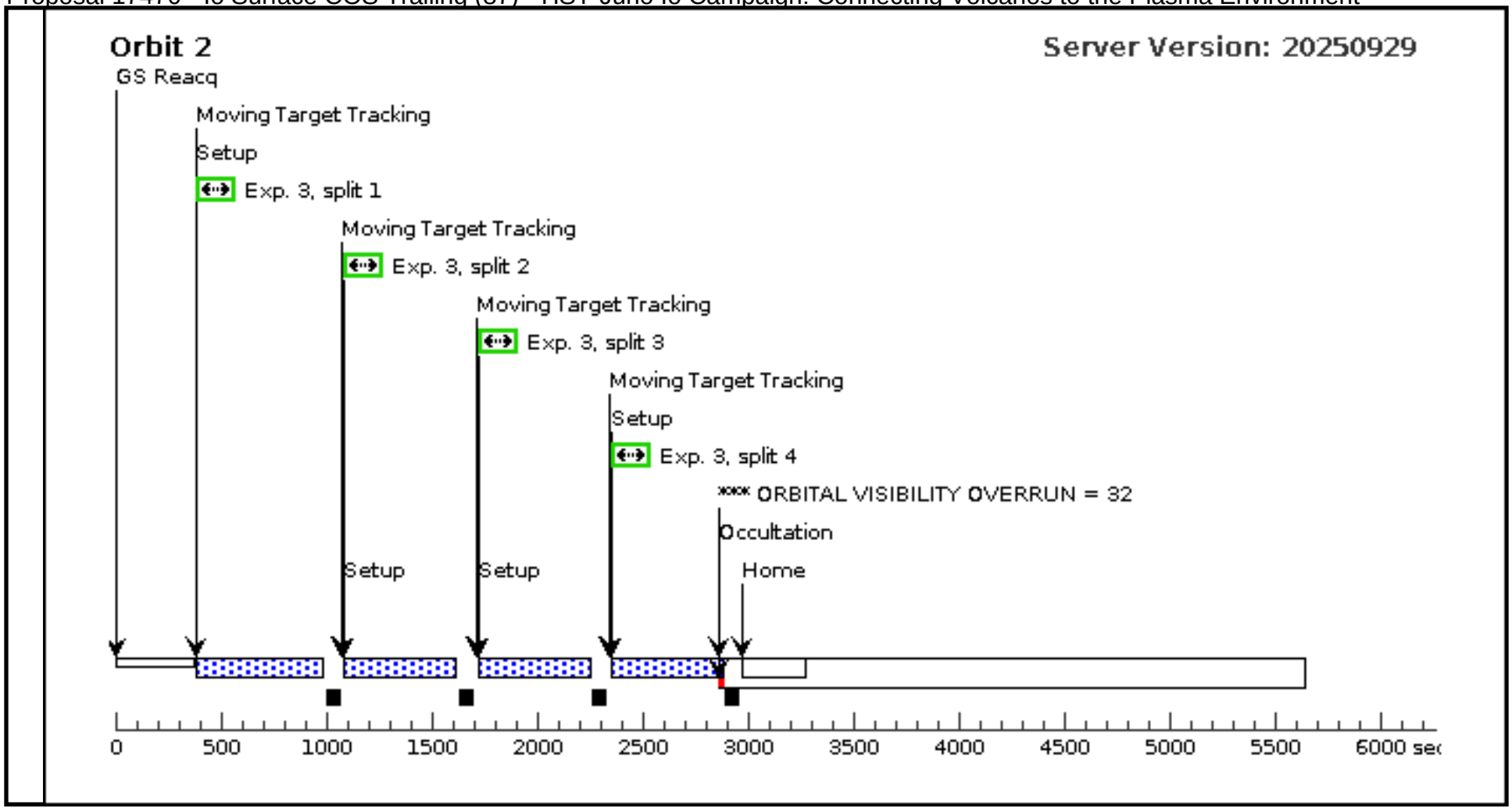
Comments: Description=Io EUV reflectance COS spectra
Extended=YES

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.sa.1010061)	(87) IO-SURFACE-COS-TRAILING	COS/NUV, ACQ/SEARCH, PSA	G230L 3000 A	SCAN-SIZE=3; CENTER=FLUX-WT-FLR			1 Secs (1 Secs) *[==>]*	*[1]*
	Comments: This acquisition mode/setup was used successfully used in program 15147.								
2	(COS.sa.1010060)	(87) IO-SURFACE-COS-TRAILING	COS/FUV, TIME-TAG, PSA	G130M 1055 A	BUFFER-TIME=1000; SEGMENT=BOTH; FP-POS=ALL			30 Secs (1316 Secs) *[==>329.0 Secs (Split 1)]* *[==>329.0 Secs (Split 2)]* *[==>329.0 Secs (Split 3)]* *[==>329.0 Secs (Split 4)]*	*[1]*
3	(COS.sa.1010060)	(87) IO-SURFACE-COS-TRAILING	COS/FUV, TIME-TAG, PSA	G130M 1055 A	BUFFER-TIME=1000; FP-POS=ALL; SEGMENT=BOTH			300 Secs (1920 Secs) *[==>480.0 Secs (Split 1)]* *[==>480.0 Secs (Split 2)]* *[==>480.0 Secs (Split 3)]* *[==>480.0 Secs (Split 4)]*	*[2]*

Orbit Structure




Orbit 2
Server Version: 20250929
GS Reacq
Moving Target Tracking
Setup
Exp. 3, split 1
Moving Target Tracking
Exp. 3, split 2
Moving Target Tracking
Exp. 3, split 3
Moving Target Tracking
Setup
Exp. 3, split 4
*** ORBITAL VISIBILITY OVERRUN = 32
Occultation
Setup
Setup
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec