18064 - Are Novae Galactic Lithium Factories ?

Cycle: 33, Proposal Category: GO

(UV Initiative)

(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
04	(3) ASASSN-26NO	STIS/CCD STIS/NUV-MAMA	1	26-Aug-2026 16:00:30.0	yes
05	(3) ASASSN-26NO	STIS/CCD STIS/NUV-MAMA	2	26-Aug-2026 16:00:31.0	yes
06	(3) ASASSN-26NO	STIS/CCD STIS/NUV-MAMA	3	26-Aug-2026 16:00:32.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
07	(6) TCP-J05210763+2338194	STIS/CCD STIS/NUV-MAMA	1	26-Aug-2026 16:00:32.0	yes
08	(6) TCP-J05210763+2338194	STIS/CCD STIS/NUV-MAMA	2	26-Aug-2026 16:00:33.0	yes
09	(6) TCP-J05210763+2338194	STIS/CCD STIS/NUV-MAMA	3	26-Aug-2026 16:00:34.0	yes

12 Total Orbits Used

ABSTRACT

The astrophysical origin of lithium in the Galaxy represents one of the major open questions in modern astrophysics. While lithium is destroyed by stellar evolution, many astrophysical processes and sources actively produce lithium. However, galactic chemical evolution studies suggest that none of these latter sources except novae appears sufficiently efficient to synthesize the total amount of Li. Detection of the 7Be II 313.0 nm resonance doublet transition in novae has finally confirmed theoretical predictions that 7Be is produced during the thermonuclear runaway on the surface of an accreting white dwarf that drives nova explosions. 7Be decays into 7Li with a half-life of 53.2 days, but when 7Be abundances are measured relative to calcium (current technique) the derived abundance of 7Li is 4 to 5 dex higher than the meteoritic value. The Ca result hints novae could be the major factories of 7Li. We propose a synoptic ToO study using the HST UV STIS echelle to set stringent constraints on in situ 7Li production using 7Be and Mg II as novel proxies. The objective is to derive an independent and accurate estimate of the nova 7Be (=7Li) yields, its evolution as it decays, and the dependence of lithium yield on nova type (classical novae or recurrent) using Mg II 280.0 nm as a reference element. The goal is to determine whether novae are the Galactic lithium factories. Two novae targets are proposed to enable comparision of 7Li yields in different nova types which will constrain the tension between theoretical models and observations.

OBSERVING DESCRIPTION

HST/STIS echelle spectra will be analyzed to quantify the amount of 7Be produced in CNeby using the Mg II 280.0 nm doublet transitions as a proxy. Simultaneous observations of both the Mg II 280.0 nm and the 7Be II 313.0 nm lines at high spectral resolution require HST/STIS. The use of HST/STIS in echelle mode is crucial to identify and analyze the resonance lines of Be II and Mg II and disentangle their narrow absorption troughs from possible Fe, Cr, Ti and V contaminants. HST observations will be conducted with the E230H grating, an a 0.2 x 0.2 arcsec slit (novae are point-sources), and tilt centered on 276.2 nm and 301.2 nm, reaching a resolving power of approximetly 2.5 km/s at 280.0 nm. This resolution is well-suited to unambiguously resolve narrow non-saturated absorption features necessary to identify possible multiple components.

The science goal will be achieved by observing two bright (Vpeak approximately 7) novae at three distinct epochs sampling over the time of the 7Be half-life (53 days). The ToO trigger observations will be executed within ~21-30 days after the nova discovery (non-disruptive ToO; 21 day from submission of trigger request to scheduling and execution) when the nova brightness is around V >=7.5 mag. These STIS wavelengths are chosen to provide direct information on Mg II 280.0 nm, and 7Be II 313.0 nm lines, respectively. All three epochs will use the same instrumental setup and will be planned as a non-disruptive ToO, with an observing cadence of approximately 10-20 days between consecutive visits. The exact execution plan of HST/STIS observations depends on the nova evolution (which will be followed by ancillary facilities both grround- and space-based).

The ToO trigger will be reserved for for classical novae (CNe) or recurrent novae (RNe), with Vmax >=7 mag, and with low extinction, E(B-V) ~ 0.5 mag (corresponding to NH = 3 x 10^21 cm-2) as deteremined from extinction and N(H) maps and ancillary observations.

Use of the NASA Gehrels Swift Observatory will provide UVOT monitoring to estimate the UV brightness and ensure the safety of the MAMA detectors. To calculate exposure times, we assume a Bruzual synthetic spectrum of a V aproximately 7.5, 8.5, and 9.5 mag A0-type star selected from the templates in the STIS ETC, available on the HST website, which best resembles the spectrum during the late-bright phases of a nova. The exposure times are chosen to obtain S/N per spectral resolution element of >=12, enough to disentangle narrow features from the bright continuum and to measure their equivalent widths for the abundance estimates. This implies initial (epoch#1) exposure times of ~600 s (optimized to account for full utilization of a given orbit) and ~1100s (optimized to account for full utilization of a given orbit)for the 276.2 and 301.2 tilts, respectively. Likely the nova brightness will fade by approximately 1-2 magnitudes over the epochs of the synoptic observations, hence the requisite increase of one to two orbits per visit. HST/STIS data will be reduced using the calstis pipeline, available in the AstroConda python environment through the stistool packages if high level data products are not directly available from the MAST.

The final exposure times have been adjusted acoring to the Orbit Planner in the APT v2025.3.04 software during Phase II. TIME-TAG mode for the MAMA detectors is used, as it offers several advantages and increases the legacy value of the observations. BUFFER-TIME is 4/5 of STIS ETC returned simulation buffer time.

The average number of observed novae in the whole sky is approximately 3 novae per year brighter than Vmax <= 9.0. The requested time is conservatively benchmarked to be 2 CNe/RNe in HST proposal Cycle 33. The selection of the targets and epochs of observations will be based on their brightness in order to not exceed the bright-object limit values (Vmag approximately 6 mag for the E230H echelle observations). The safety of the STIS MAMA detectors is of paramount importance and to ensure their safety we will use the appropriate STIS archival spectrum, scaled to the

latest Swift UVOT and AAVSO photometry, to confirm that the source does not exceed the MAMA bright source limits. Finally, the observational strategy uses the STIS MAMA detectors, the observations must be taken in non-SAA impacted orbits and have a bright source check of the field done prior to release for scheduling.

One of the most important requirements for the success of our proposal consists in measuring equivalent widths from Mg II and 7Be II absorption features that are not affected by saturation, and this condition is generally obtained from approximetaly 40-50 days after the nova outburst. However, this constraint is dependent on the speed class of the nova. Accompanying, complementary ground-based spectroscopic programs and Swift ToO requests will be activated to determine the spectral evolution of the nova, its speed class and to control that its brightness does not exceed the bright-object limit along the entire wavelength range. Once a suitable target has been identified, we will construct and trigger the final HST observing plan according to our early results from our complementary observations. The initial visit (#1) is a non-disruptive ToO, followed by two additional observations (#2 nominally 10-20 days after #1; and #3 nominally 10-20 days after #2) for three epochs total. We will work with the HST planners to implement a cadence to maximize science return. In total, this ToO is comprised of two non-distruptive triggers. The multi-epoch observations of the same selected target(s) triggered in this ToO program are required as CNe/RNe are temporally (i.e., variable) evolving objects. The exact execution plan of HST/STIS observations depends on the nova evolution.

If not triggered during the cycle, a request to the TTRB for carry-over consideration will be sent (using the N+1 cycle policy). The proposed ToO trigger could take advantage of the Flexible Thursday scheduling opportunities only in Cycle 33as outlined in the proposal narrative.

We will update the astrometric coordinates of the generic targets for the specific targeted novae when they become available.

Visit

Proposal 18064, NOVA2-Epoch1 (04), completed Wed Aug 26 20:00:34 GMT 2026

Diagnostic Status: No Diagnostics

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

Special Requirements: TOO MIN RESPONSE TIME 21.0D; TOO MAX RESPONSE TIME 25.0D

Comments: FIRST spectroscopic epoch of NOVA2 target. The ToO trigger will be reserved for a bright novae or recurrent novae, with Vmax >=7 mag, and with low extinction, E(B-V) ~ 0.5 mag (corresponding to NH = 3 x 10^21 cm-2) as determined from extinction and N(H) maps and ancillary observations. The Epoch 1 observations will be executed within ~21-30 days after the nova discovery (non-disruptive ToO tigger) when the nova brightness is around V ~7 to 7.5 mag. Both grating settings (c2762 and c3012) must be observed during a single visit to achieve the proposal science goals, as the source is temporally variable.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	ASASSN-26NO Alt Name1: NVMUSCA2026	RA: 11 44 32.2400 (176.1343333d) Dec: -68 48 26.80 (-68.80744d) Equinox: J2000	Epoch of Position: 2000	V=9.0+/-0.2 g-band 9.59	Reference Frame: ICRS

Comments: First Nova Trigger ATEL# 17813 reports a spectra of ASASSN-26no obtained on the SOAR 4.1m on 2026 May 24 (UT 00:43) showed a " flat continuum (suggesting only modest reddening) with strong emission lines of H (Hbeta FWHM about 1400 km/s), He I, and Fe II. Most of the emission lines show strong P Cygni profiles extending to about -1000 km/s from rest. The spectrum and light curve evolution are consistent with a slow classical nova." Photometery (ASASSN site) indicates that the nova is currently V= 9 mag. This meets the trigger criteria outlined in the technical section of the original ToO proposal. We have triggered our VLT ToO program for additionalt spectroscopic follow-up. This is the first (EPOCH1) trigger (visit) NON-DISRUPTUVE activations and replace Genergic Target NOVA2. Note that the GAIA position puts the target 7.9 arcseconds away ....The coordinates entered were the pointing coordinates used by the investigators reporting in the discovery cricular ATEL 17813 (confirmed via email corresponance). Discovey date 2026-May-11. Revised cew: Tue May 26 13:12:08 CDT 2026
Category=STAR
Description=[CLASSICAL NOVA, NOVA-LIKE]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ-NOVA2-Epoch1 (2348075)	(3) ASASSN-26NO	STIS/CCD, ACQ, F25ND3	MIRROR				5 Secs (5 Secs) *[==>]*	*[1]*

Comments: The ToO trigger will be reserved (ON-HOLD) for a bright novae or recurrent novae, with Vmax >=7 mag, and with low extinction, E(B-V) ~ 0.5 mag (corresponding to NH = 3 x 10^21 cm-2) as determine d from extinction and N(H) maps and ancillary observations.

Updated the STIS TA ETC V34.1.1 computations to 2346649, which assume AOV and V=10 Vega magnitude, F25ND3 E(B-V) =0.332 mag from NASA IPAC Galactic DUST and Reddeding website in direction of targ et for SN=40 Wed May 27 08:25:44 CDT 2026

Updated the STIS TA ETC V34.1.1 computations to 2348076, which assume AOV and V=8.25 (current AAVSO mag) Vega mag, F25ND3 E(B-V) =0.332 mag, NASA IPAC Galactic DUST and Reddeding website in di rection of target for SN=40 Fri May 29 13:44:54 CDT 2026

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	TILT-2762-NOVA2-Epoch1 (2022856)	(3) ASASSN-26NO	STIS/NUV-MAMA, TIME-TAG, 0.2X0.2	E230H 2762 A	BUFFER-TIME=15 2.0			421.0 Secs (421 Secs) *[==>]*	*[1]*

Comments: Original 2022811 | OB for target with V = 7.5 mag, STIS ETC v33.2 | AOV Bruzual spectral type, E(B-V) = 0.3, SNR >=12 @ 2800AA (near MgII line position). TIME-TAG mode for the MAMA detector s is used, as it offers several advantages and increases the legacy value of the observations. BUFFER-TIME is 4/5 of STIS ETC returned simulation time.

Update Wed May 27 08:34:35 CDT 2026:

OB for target with V = 9.5 mag, STIS ETC v33.2 2022856 | AOV Bruzual spectral type, E(B-V) = 0.3, SNR >=12 @ 2800AA (near MgII line position). TIME-TAG mode for the MAMA detectors is used, as it offers sev eral advantages and increases the legacy value of the observations. BUFFER-TIME is 4/5 of STIS ETC returned simulation time.

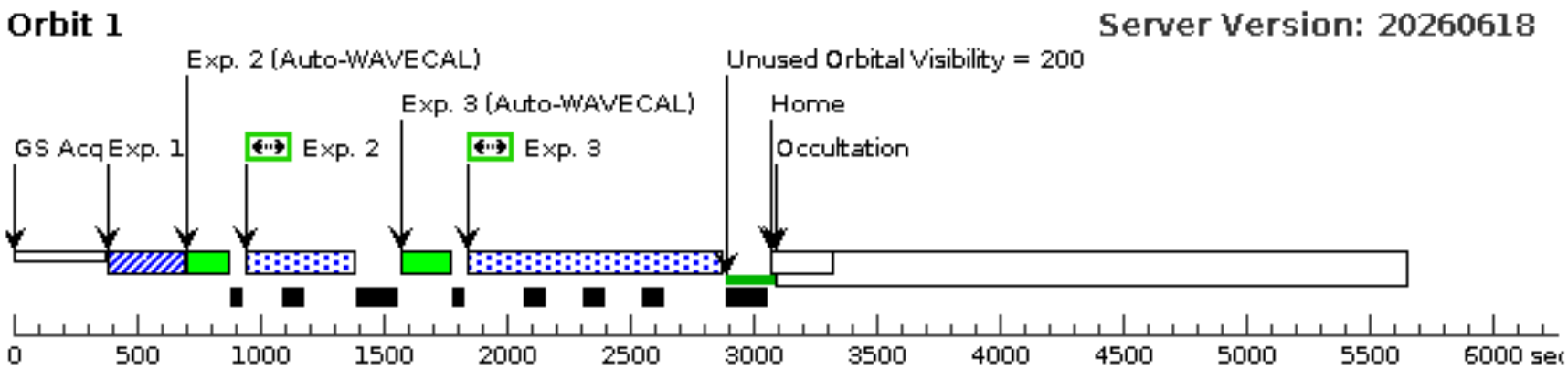
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	TILT-3012-NOVA2-Epoch1- ExposureA (2022857)	(3) ASASSN-26NO	STIS/NUV-MAMA, TIME-TAG, 0.2X0.2	E230H 3012 A	BUFFER-TIME=23 5.0			1017.0 Secs (1017 Secs) *[==>]*	*[1]*

Comments: Original 2022805 : OB for target with V = 7.5 mag, STIS ETC v33.2 | AOV Bruzual spectral type, E(B-V) = 0.3, SNR >=12 @ 3130AA (near 7BeII line position). TIME-TAG mode for the MAMA detector s is used, as it offers several advantages and increases the legacy value of the observations. BUFFER-TIME is 4/5 of STIS ETC returned simulation time.

Update Wed May 27 08:34:35 CDT 2026

OB for target with V = 9.5 mag, STIS ETC v33.2 2022857| AOV Bruzual spectral type, E(B-V) = 0.3, SNR >=12 @ 3130AA (near 7BeII line position). TIME-TAG mode for the MAMA detectors is used, as it offers sev eral advantages and increases the legacy value of the observations. BUFFER-TIME is 4/5 of STIS ETC returned simulation time.

Orbit Structure



Visit

Proposal 18064, NOVA2-Epoch2 (05), completed Wed Aug 26 20:00:34 GMT 2026

Diagnostic Status: No Diagnostics

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

Special Requirements: AFTER 19-JUL-2026:00:00:00; TOO MIN RESPONSE TIME 10.0D; TOO MAX RESPONSE TIME 50.0D

Comments: SECOND spectroscopic epoch of NOVA2 target. The observations of Visit 2 should occur within ~10-20 days after Visit 1 (Epoch1 the ToO trigger visit). We will work with assigned StScI contact scientist to optimimize follow-on cadence as the HST/STIS observations depends on the nova evolution (as described in the proposal). Both grating settings (c2762 and c3012) must be observed during a single visit to achieve the proposal science goals, as the source is temporally variable.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	ASASSN-26NO Alt Name1: NVMUSCA2026	RA: 11 44 32.2400 (176.1343333d) Dec: -68 48 26.80 (-68.80744d) Equinox: J2000	Epoch of Position: 2000	V=9.0+/-0.2 g-band 9.59	Reference Frame: ICRS

Comments: First Nova Trigger ATEL# 17813 reports a spectra of ASASSN-26no obtained on the SOAR 4.1m on 2026 May 24 (UT 00:43) showed a " flat continuum (suggesting only modest reddening) with strong emission lines of H (Hbeta FWHM about 1400 km/s), He I, and Fe II. Most of the emission lines show strong P Cygni profiles extending to about -1000 km/s from rest. The spectrum and light curve evolution are consistent with a slow classical nova." Photometery (ASASSN site) indicates that the nova is currently V= 9 mag. This meets the trigger criteria outlined in the technical section of the original ToO proposal. We have triggered our VLT ToO program for additionalt spectroscopic follow-up. This is the first (EPOCH1) trigger (visit) NON-DISRUPTUVE activations and replace Genergic Target NOVA2. Note that the GAIA position puts the target 7.9 arcseconds away ....The coordinates entered were the pointing coordinates used by the investigators reporting in the discovery cricular ATEL 17813 (confirmed via email corresponance). Discovey date 2026-May-11. Revised cew: Tue May 26 13:12:08 CDT 2026
Category=STAR
Description=[CLASSICAL NOVA, NOVA-LIKE]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ-NOVA2-Epoch2 (2348076)	(3) ASASSN-26NO	STIS/CCD, ACQ, F25ND3	MIRROR				20.0 Secs (20 Secs) *[==>]*	 ***[1]***

Comments: Epoch 2 Visit to NOVA 2 (ON-HOLD) for cadence assessment and science optimization after initial ToO trigger visit (Epoch 1).

Updated the STIS TA ETC V34.1.1 computations to 2346649, which assume AOV and V=10 Vega magnitude, F25ND3 E(B-V) =0.332 mag from NASA IPAC Galactic DUST and Reddeding website in direction of target for SN=40 Wed May 27 08:25:44 CDT 2026

Updated the STIS TA ETC V34.1.1 computations to 2348076, which assume AOV and V=8.25 (current AAVSO mag) Vega mag, F25ND3 E(B-V) =0.332 mag, NASA IPAC Galactic DUST and Reddeding website in direction of target for SN=40 Fri May 29 13:44:54 CDT 2026

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	TILT-2762-NOVA2-Epoch2 (2022856)	(3) ASASSN-26NO	STIS/NUV-MAMA, TIME-TAG, 0.2X0.2	E230H 2762 A	BUFFER-TIME=33 4.0			1910 Secs (1910 Secs) *[==>]*	 ***[1]***

Comments: Original 2022833: OB for target with V = 8.5 mag, STIS ETC v33.2 | AOV Bruzual spectral type, E(B-V) = 0.3, SNR >=12 @ 2800AA (near MgII line position). TIME-TAG mode for the MAMA detectors is used, as it offers several advantages and increases the legacy value of the observations.

Update Wed May 27 08:34:35 CDT 2026:

OB for target with V = 9.5 mag, STIS ETC v33.2 2022856 | AOV Bruzual spectral type, E(B-V) = 0.3, SNR >=12 @ 2800AA (near MgII line position). TIME-TAG mode for the MAMA detectors is used, as it offers several advantages and increases the legacy value of the observations. BUFFER-TIME is 4/5 of STIS ETC returned simulation time.

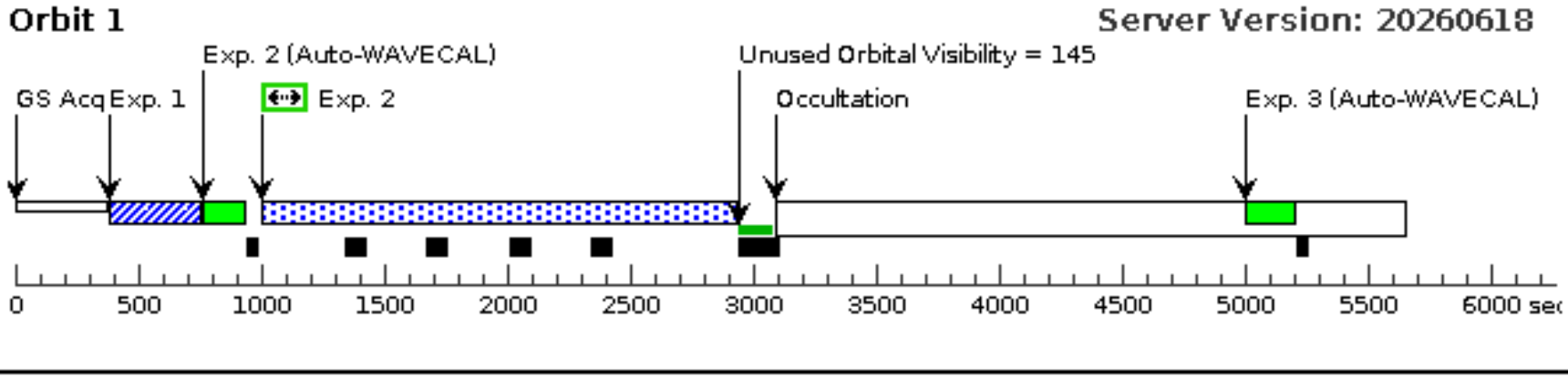
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	TILT-3012-NOVA2-Epoch2- ExposureA (2022857)	(3) ASASSN-26NO	STIS/NUV-MAMA, TIME-TAG, 0.2X0.2	E230H 3012 A	BUFFER-TIME=48 5.0			2562.0 Secs (2562 Secs) *[==>]*	 ***[2]***

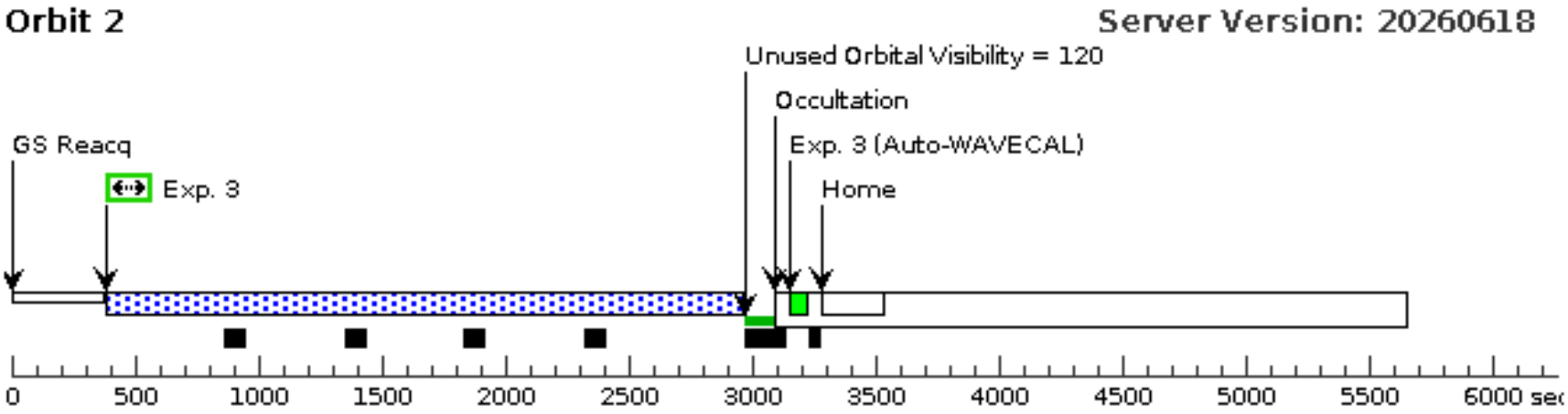
Comments: Original 2022835 | OB for target with V = 8.5 mag, STIS ETC v33.2 | AOV Bruzual spectral type, E(B-V) = 0.3, SNR >=12 @ 3130AA (near 7BeII line position). Split between orbits. TIME-TAG mode for the MAMA detectors is used, as it offers several advantages and increases the legacy value of the observations.

Update Wed May 27 08:34:35 CDT 2026

OB for target with V = 9.5 mag, STIS ETC v33.2 2022857 | AOV Bruzual spectral type, E(B-V) = 0.3, SNR >=12 @ 3130AA (near 7BeII line position). TIME-TAG mode for the MAMA detectors is used, as it offers several advantages and increases the legacy value of the observations. BUFFER-TIME is 4/5 of STIS ETC returned simulation time.

Orbit Structure





Visit

Proposal 18064, NOVA2-Epoch3 (06), completed Wed Aug 26 20:00:34 GMT 2026

Diagnostic Status: No Diagnostics

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

Special Requirements: AFTER 05 BY 10 D TO 20 D; ON HOLD ; TOO MIN RESPONSE TIME 15.0D; TOO MAX RESPONSE TIME 60.0D

Comments: THIRD spectroscopic epoch of NOVA2 target. The observations of Visit 3 should occur within ~10-20 days after Visit2. We will work with assigned StScI contact scientist to optimimize follow-on cadence as the HST/STIS observations depends on the nova evolution (as described in the proposal). Both grating settings (c2762 and c3012) must be observed during a single visit to achieve the proposal science goals, as the source is temporally variable.

On Hold Comments: Generic Target is a ToO. The Epoch 3 observations are designed to follow Epoch 2 visit by ~10-20 days (when nova brightness has declined to V~9.5 mag).

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	ASASSN-26NO	RA: 11 44 32.2400 (176.1343333d)	Epoch of Position: 2000	V=9.0+/-0.2	Reference Frame: ICRS
	Alt Name1: NVMUSCA2026	Dec: -68 48 26.80 (-68.80744d)		g-band 9.59	
		Equinox: J2000			

Comments: First Nova Trigger ATEL# 17813 reports a spectra of ASASSN-26no obtained on the SOAR 4.1m on 2026 May 24 (UT 00:43) showed a " flat continuum (suggesting only modest reddening) with strong emission lines of H (Hbeta FWHM about 1400 km/s), He I, and Fe II. Most of the emission lines show strong P Cygni profiles extending to about -1000 km/s from rest. The spectrum and light curve evolution are consistent with a slow classical nova." Photometery (ASASSN site) indicates that the nova is currently V= 9 mag. This meets the trigger criteria outlined in the technical section of the original ToO proposal. We have triggered our VLT ToO program for additionalt spectroscopic follow-up. This is the first (EPOCH1) trigger (visit) NON-DISRUPTUVE activations and replace Genergic Target NOVA2. Note that the GAIA position puts the target 7.9 arcseconds away ....The coordinates entered were the pointing coordinates used by the investigators reporting in the discovery cricular ATEL 17813 (confirmed via email corresponance). Discovey date 2026-May-11. Revised cew: Tue May 26 13:12:08 CDT 2026
Category=STAR
Description=[CLASSICAL NOVA, NOVA-LIKE]

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ-NOVA2-Epoch3 (2348076)	(3) ASASSN-26NO	STIS/CCD, ACQ, F25ND3	MIRROR				20.00 Secs (20 Secs) *[==>]*	***[1]***
	Comments: Epoch 3 Visit to NOVA 2 (ON-HOLD) for cadence assessment and science optimization after initial ToO trigger visit (Epoch 1). *Updated the STIS TA ETC V34.1.1 computations to 2346649, which assume AOV and V=10 Vega magnitude, F25ND3 E(B-V) =0.332 mag from NASA IPAC Galactic DUST and Reddeding website in direction of target for SN=40 Wed May 27 08:25:44 CDT 2026* *Updated the STIS TA ETC V34.1.1 computations to 2348076, which assume AOV and V=8.25 (current AAVSO mag) Vega mag, F25ND3 E(B-V) =0.332 mag, NASA IPAC Galactic DUST and Reddeding website in direction of target for SN=40 Fri May 29 13:44:54 CDT 2026*								
2	TILT-2762-NOVA2-Epoch3 (2022856)	(3) ASASSN-26NO	STIS/NUV-MAMA, TIME-TAG, 0.2X0.2	E230H 2762 A	BUFFER-TIME=63 9.0			1910 Secs (1910 Secs) *[==>]*	***[1]***
	Comments: Original 2022856 OB for target with V = 9.5 mag, STIS ETC v33.2 | AOV Bruzual spectral type, E(B-V) = 0.3, SNR >=12 @ 2800AA (near MgII line position). TIME-TAG mode for the MAMA detectors is used, as it offers several advantages and increases the legacy value of the observations. *Update Wed May 27 08:34:35 CDT 2026* *OB for target with V = 9.5 mag, STIS ETC v33.2 2022856 | AOV Bruzual spectral type, E(B-V) = 0.3, SNR >=12 @ 2800AA (near MgII line position). TIME-TAG mode for the MAMA detectors is used, as it offers several advantages and increases the legacy value of the observations. BUFFER-TIME is 4/5 of STIS ETC returned simulation time.*								
3	TILT-3012-NOVA2-Epoch3- ExposureA (2022857)	(3) ASASSN-26NO	STIS/NUV-MAMA, TIME-TAG, 0.2X0.2	E230H 3012 A	BUFFER-TIME=83 9.0			2562 Secs (2562 Secs) *[==>]*	***[2]***
	Comments: Original : OB for target with V = 9.5 mag, STIS ETC v33.2 | AOV Bruzual spectral type, E(B-V) = 0.3, SNR >=9 @ 3130AA (near 7BeII line position). Split between orbits. TIME-TAG mode for the MAMA detectors is used, as it offers several advantages and increases the legacy value of the observations. Two exposures (one orbit each) are required to reach the minimum SNR requirements outlined in the proposal for this epoch when the source has faded on brightness. *Update Wed May 27 08:34:35 CDT 2026* *OB for target with V = 9.5 mag, STIS ETC v33.2 2022857 | AOV Bruzual spectral type, E(B-V) = 0.3, SNR >=12 @ 3130AA (near 7BeII line position). TIME-TAG mode for the MAMA detectors is used, as it offers several advantages and increases the legacy value of the observations. BUFFER-TIME is 4/5 of STIS ETC returned simulation time.*								
4	TILT-3012-NOVA2-Epoch3- ExposureB (2022857)	(3) ASASSN-26NO	STIS/NUV-MAMA, TIME-TAG, 0.2X0.2	E230H 3012 A	BUFFER-TIME=83 9.0			2562 Secs (2562 Secs) *[==>]*	***[3]***
	Comments: OB 2022857 for target with V = 9.5 mag, STIS ETC v33.2 | AOV Bruzual spectral type, E(B-V) = 0.3, SNR >=9 @ 3130AA (near 7BeII line position). Split between orbits. TIME-TAG mode for the MAMA detectors is used, as it offers several advantages and increases the legacy value of the observations. Two exposures (one orbit each) are required to reach the minimum SNR requirements outlined in the proposal for this epoch when the source has faded on brightness. *Update Wed May 27 08:34:35 CDT 2026* *OB for target with V = 9.5 mag, STIS ETC v33.2 2022857 | AOV Bruzual spectral type, E(B-V) = 0.3, SNR >=12 @ 3130AA (near 7BeII line position). TIME-TAG mode for the MAMA detectors is used, as it offers several advantages and increases the legacy value of the observations. BUFFER-TIME is 4/5 of STIS ETC returned simulation time.*								

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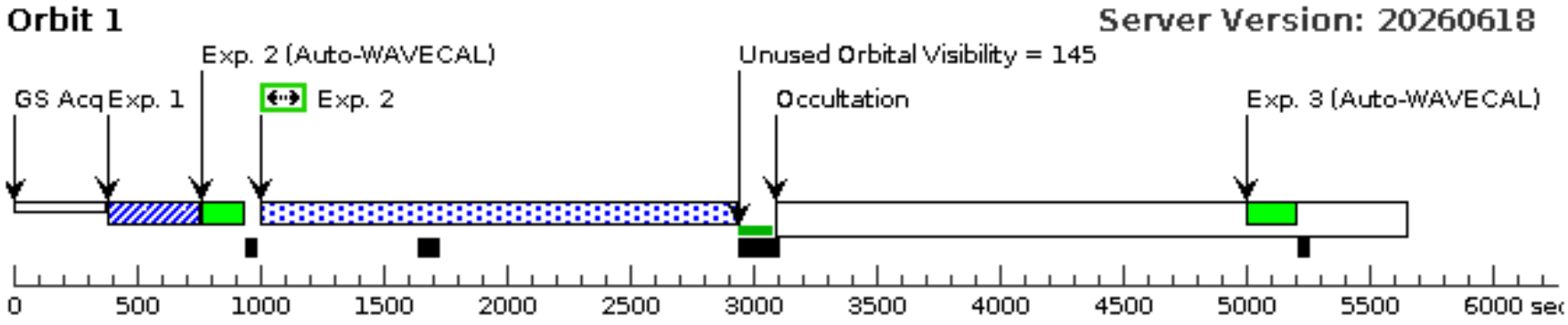

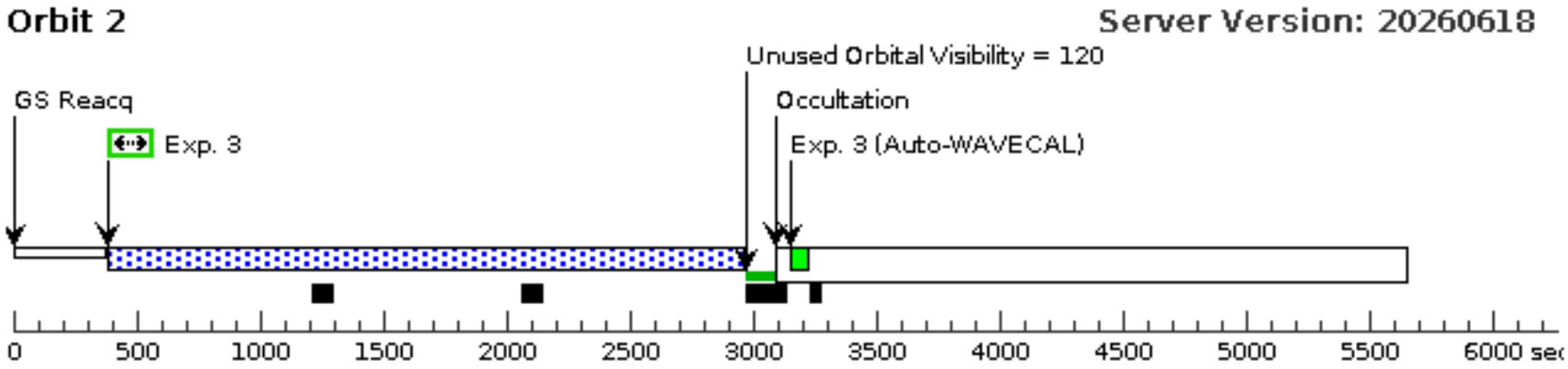

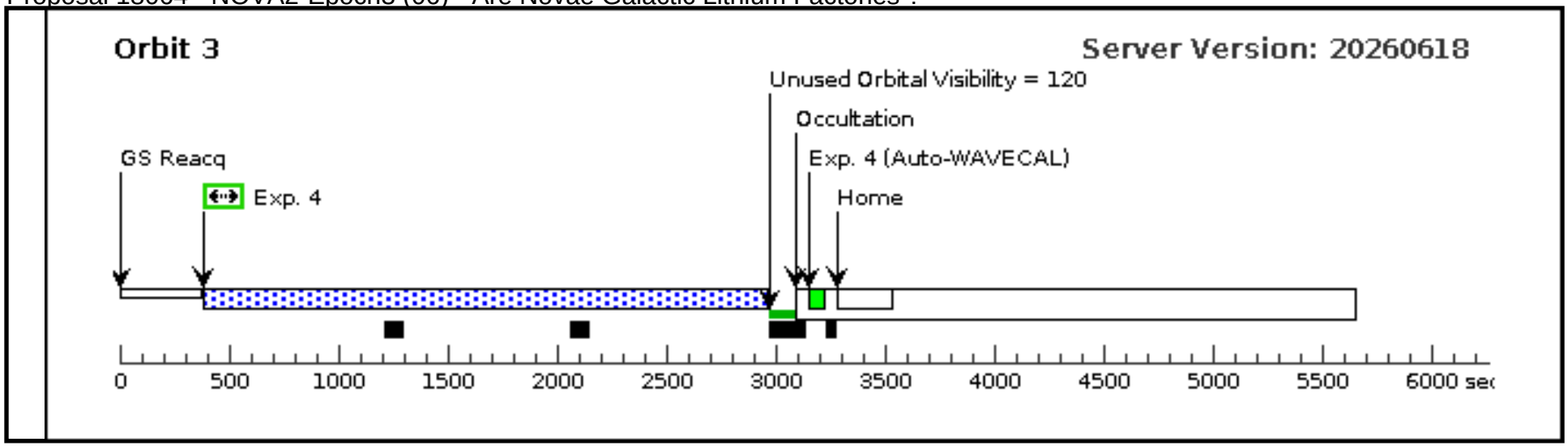
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Home
GS Reacq
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2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 18064, NOVA1-Epoch1 (07), implementation Wed Aug 26 20:00:35 GMT 2026

Diagnostic Status: No Diagnostics

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

Special Requirements: BETWEEN 2026.252 AND 2026.261; TOO MIN RESPONSE TIME 1.0D; TOO MAX RESPONSE TIME 25.0D

Comments: FIRST spectroscopic epoch of NOVA1 target. The ToO trigger will be reserved for a bright novae or recurrent novae, with Vmax >=7 mag, and with low extinction, E(B-V) ~ 0.5 mag (corresponding to NH = 3 x 10^21 cm-2) as determined from extinction and N(H) maps and ancillary observations. The Epoch 1 observations will be executed within ~21-30 days after the nova discovery (non-disruptive ToO tigger) when the nova brightness is around V ~7 to 7.5 mag. Both grating settings (c2762 and c3012) must be observed during a single visit to achieve the proposal science goals, as the source is temporally variable.

Trigger on TCP J18251276-2225293 discovered 2026-08019.1063UTC with reported V=8.5 on 2026-08-19.2472 with E(B-V) = 0.5

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	TCP-J05210763+2338194 Alt Name1: NOVATAU2026	RA: 05 21 7.6600 (80.2819167d) Dec: +23 38 19.60 (23.63878d) Equinox: J2000	Epoch of Position: 2000	V=10.87	Reference Frame: ICRS

Comments: Recent AASVO magnitudes report V=10.87 on 2026.08.26 and ground based optical spectroscopy 2026.08.22 from ESO shows many absorption metallic lines, including 7Be in the spectrum. We have decide to revisit this target and trigger the HST ToO as light curve evolution is very slow and observe nova which has good visibility over the next 6-10 weeks. Its spectrophotometric evolution is similar to V1369Cen or V5668Sgr event and it is bright. Overall, it meets the trigger criteria outlined in the technical section of the original ToO proposal.
Category=STAR
Description=[NOVA-LIKE]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ-NOVA1-Epoch1 (2021755)	(6) TCP-J05210763+2338194	STIS/CCD, ACQ, F25ND5	MIRROR				26.6 Secs (26.6 Secs) *[==>]*	*[1]*

Comments: The ToO trigger will be reserved (ON-HOLD) for a bright novae or recurrent novae, with Vmax >=7 mag, and with low extinction, E(B-V) ~ 0.5 mag (corresponding to NH = 3 x 10^21 cm-2) as determine d from extinction and N(H) maps and ancillary observations.

Trigger on TCP J05210763+2338194 discovered on 2026-08-06.4109 UT with reported V=10.5. AAVSO reported light curve measurements show that the evolution is very slow (little change in V mag).

STIS.ta.2367639 suggests a S/N = 40.0 in 1.6194s with a time to saturation of 231.31s F25ND3 with V=10.87 (reported magnitude on 2026-08-25) assuming with E(B-V) = 0.7 and Bruzual Synthetic Stellar Spectra A 0 V

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	TILT-2762-NOVA1-Epoch1 (2022811)	(6) TCP-J05210763+2338194	STIS/NUV-MAMA, TIME-TAG, 0.2X0.2	E230H 2762 A	BUFFER-TIME=15 2.0			421.0 Secs (420 Secs) *[==>420.0 Secs]*	*[1]*

Comments: OB for target with V = 7.5 mag, STIS ETC v33.2 | AOV Bruzual spectral type, E(B-V) = 0.3, SNR >=12 @ 2800AA (near MgII line position). TIME-TAG mode for the MAMA detectors is used, as it offers several advantages and increases the legacy value of the observations. BUFFER-TIME is 4/5 of STIS ETC returned simulation time.

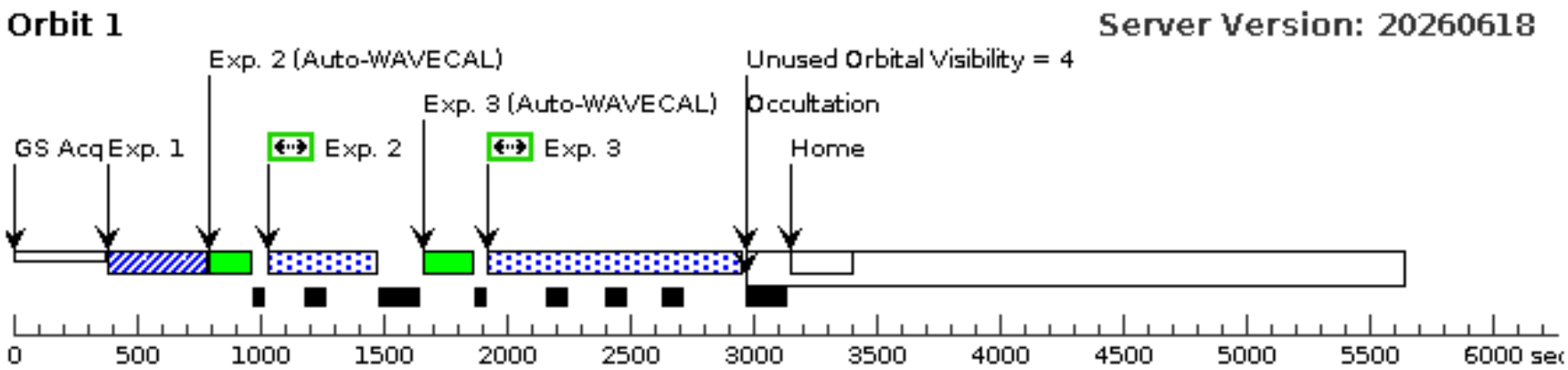
Trigger on TCP J05210763+2338194 discovered on 2026-08-06.4109 UT with reported V=10.5. AAVSO reported light curve measurements show that the evolution is very slow (little change in V mag).

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	TILT-3012-NOVA1-Epoch1- ExposureA (2022805)	(6) TCP-J05210763+2338194	STIS/NUV-MAMA, TIME-TAG, 0.2X0.2	E230H 3012 A	BUFFER-TIME=23 5.0			1017.0 Secs (1016 Secs) *[==>1016.0 Secs]*	*[1]*

Comments: OB for target with V = 7.5 mag, STIS ETC v33.2 | AOV Bruzual spectral type, E(B-V) = 0.3, SNR >=12 @ 3130AA (near 7BeII line position). TIME-TAG mode for the MAMA detectors is used, as it offers several advantages and increases the legacy value of the observations. BUFFER-TIME is 4/5 of STIS ETC returned simulation time.

Trigger on TCP J05210763+2338194 discovered on 2026-08-06.4109 UT with reported V=10.5. AAVSO reported light curve measurements show that the evolution is very slow (little change in V mag).

Orbit Structure



Visit

Proposal 18064, NOVA1-Epoch2 (08), implementation Wed Aug 26 20:00:35 GMT 2026

Diagnostic Status: No Diagnostics

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

Special Requirements: AFTER 07 BY 10 D TO 20 D; TOO MIN RESPONSE TIME 1.0D; TOO MAX RESPONSE TIME 25.0D

Comments: SECOND spectroscopic epoch of NOVA1 target. The observations of Visit 2 should occur within ~10-20 days after Visit 1 (Epoch1 the ToO trigger visit). We will work with assigned StScI contact scientist to optimimize follow-on cadence as the HST/STIS observations depends on the nova evolution (as described in the proposal). Both grating settings (c2762 and c3012) must be observed during a single visit to achieve the proposal science goals, as the source is temporally variable.

TCP J18251276-2225293 discovered 2026-08019.1063UTC with reported V=8.5 on 2026-08-19.2472 with E(B-V) = 0.5

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	TCP-J05210763+2338194 Alt Name1: NOVATAU2026	RA: 05 21 7.6600 (80.2819167d) Dec: +23 38 19.60 (23.63878d) Equinox: J2000	Epoch of Position: 2000	V=10.87	Reference Frame: ICRS

Comments: Recent AASVO magnitudes report V=10.87 on 2026.08.26 and ground based optical spectroscopy 2026.08.22 from ESO shows many absorption metallic lines, including 7Be in the spectrum. We have decide to revisit this target and trigger the HST ToO as light curve evolution is very slow and observe nova which has good visibility over the next 6-10 weeks. Its spectrophotometric evolution is similar to V1369Cen or V5668Sgr event and it is bright. Overall, it meets the trigger criteria outlined in the technical section of the original ToO proposal.
Category=STAR
Description=[NOVA-LIKE]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ-NOVA1-Epoch2 (2021755)	(6) TCP-J05210763+2338194	STIS/CCD, ACQ, F25ND3	MIRROR				26.6 Secs (26.6 Secs) *[==>]*	*[1]*

Comments: Epoch 2 Visit to NOVA 2 (ON-HOLD) for cadence assessment and science optimization after initial ToO trigger visit (Epoch 1).

Follow-up after trigger on TCP J05210763+2338194 discovered on 2026-08-06.4109 UT with reported V=10.5. AAVSO reported light curve measurements show that the evolution is very slow (little change in V mag).

STIS.ta.2367639 suggests a S/N = 40.0 in 1.6194s with a time to saturation of 231.31s F25ND3 with V=10.87 (reported magnitude on 2026-08-25) assuming with E(B-V) = 0.7 and Bruzual Synthetic Stellar Spectra A 0 V

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	TILT-2762-NOVA1-Epoch2 (2022833)	(6) TCP-J05210763+2338194	STIS/NUV-MAMA, TIME-TAG, 0.2X0.2	E230H 2762 A	BUFFER-TIME=334.0			1910 Secs (1910 Secs) *[==>]*	*[1]*

Comments: OB for target with V = 8.5 mag, STIS ETC v33.2 | AOV Bruzual spectral type, E(B-V) = 0.3, SNR >=12 @ 2800AA (near MgII line position). TIME-TAG mode for the MAMA detectors is used, as it offers several advantages and increases the legacy value of the observations.

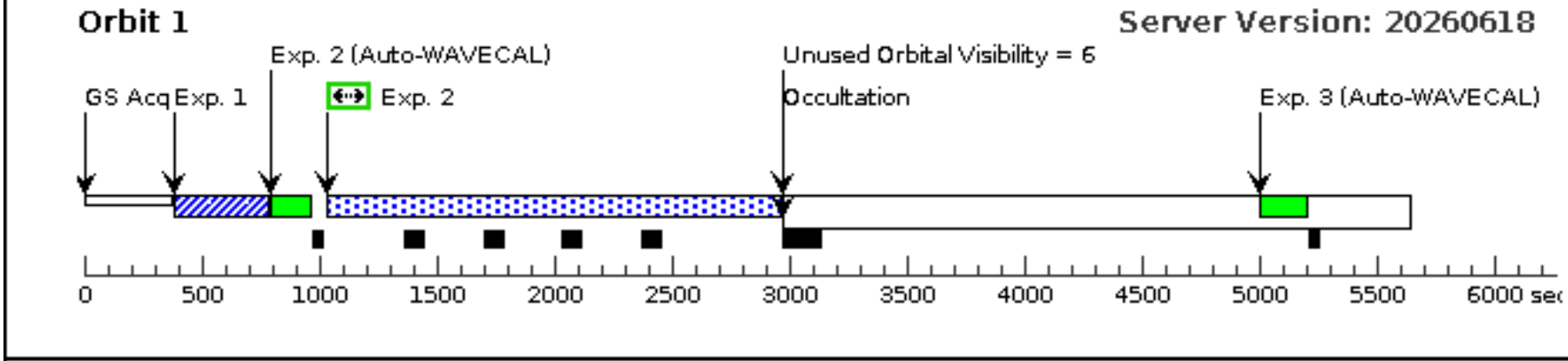
Followup after trigger on TCP J05210763+2338194 discovered on 2026-08-06.4109 UT with reported V=10.5. AAVSO reported light curve measurements show that the evolution is very slow (little change in V mag) .

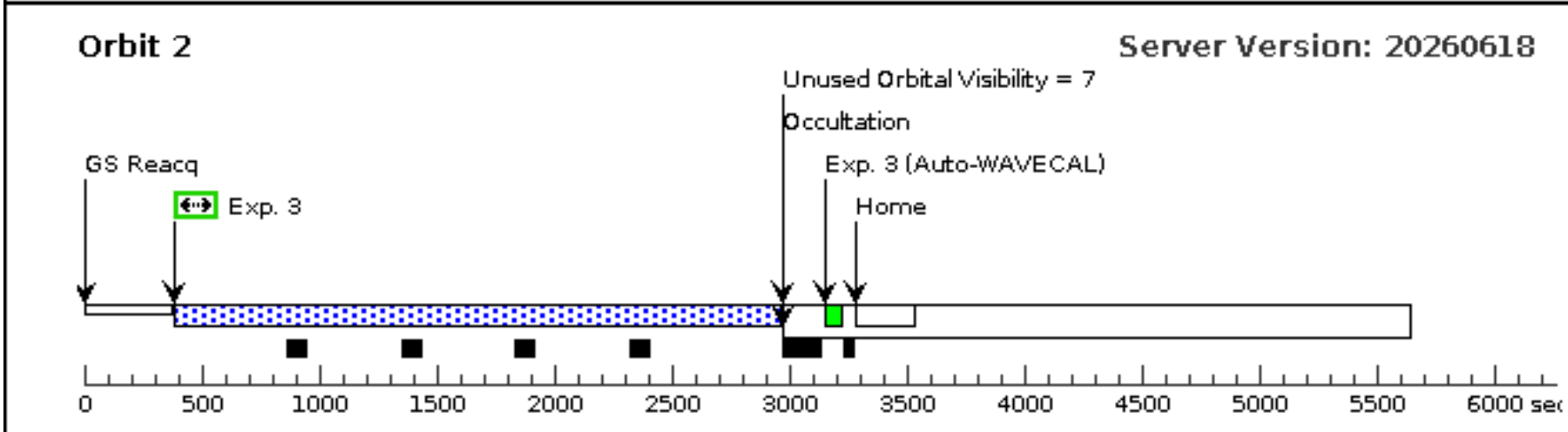
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	TILT-3012-NOVA1-Epoch2- ExposureA (2022835)	(6) TCP-J05210763+2338194	STIS/NUV-MAMA, TIME-TAG, 0.2X0.2	E230H 3012 A	BUFFER-TIME=485.0			2562.0 Secs (2562 Secs) *[==>]*	*[2]*

Comments: OB for target with V = 8.5 mag, STIS ETC v33.2 | AOV Bruzual spectral type, E(B-V) = 0.3, SNR >=12 @ 3130AA (near 7BeII line position). Split between orbits. TIME-TAG mode for the MAMA detectors is used, as it offers several advantages and increases the legacy value of the observations.

Followup after trigger on TCP J05210763+2338194 discovered on 2026-08-06.4109 UT with reported V=10.5. AAVSO reported light curve measurements show that the evolution is very slow (little change in V mag) .

Orbit Structure





Visit

Proposal 18064, NOVA1-Epoch3 (09), implementation Wed Aug 26 20:00:35 GMT 2026

Diagnostic Status: No Diagnostics

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

Special Requirements: AFTER 08 BY 10 D TO 20 D; TOO MIN RESPONSE TIME 1.0D; TOO MAX RESPONSE TIME 25.0D

Comments: THIRD spectroscopic epoch of NOVA1 target. The observations of Visit 3 should occur within ~10-20 days after Visit2. We will work with assigned StScI contact scientist to optimimize follow-on cadence as the HST/STIS observations depends on the nova evolution (as described in the proposal). Both grating settings (c2762 and c3012) must be observed during a single visit to achieve the proposal science goals, as the source is temporally variable.

TCP J18251276-2225293 discovered 2026-08019.1063UTC with reported V=8.5 on 2026-08-19.2472 with E(B-V) = 0.5

Fixed Targets

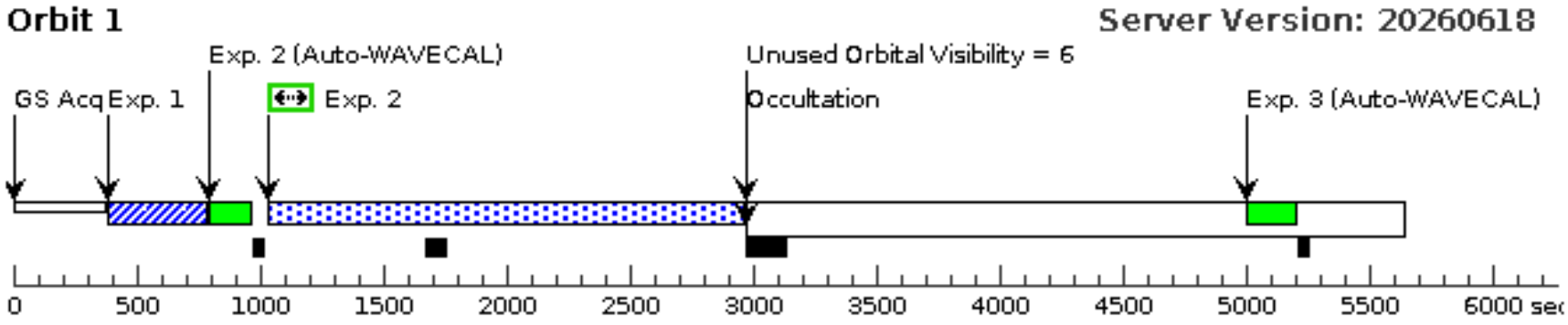
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	TCP-J05210763+2338194 Alt Name1: NOVATAU2026	RA: 05 21 7.6600 (80.2819167d) Dec: +23 38 19.60 (23.63878d) Equinox: J2000	Epoch of Position: 2000	V=10.87	Reference Frame: ICRS

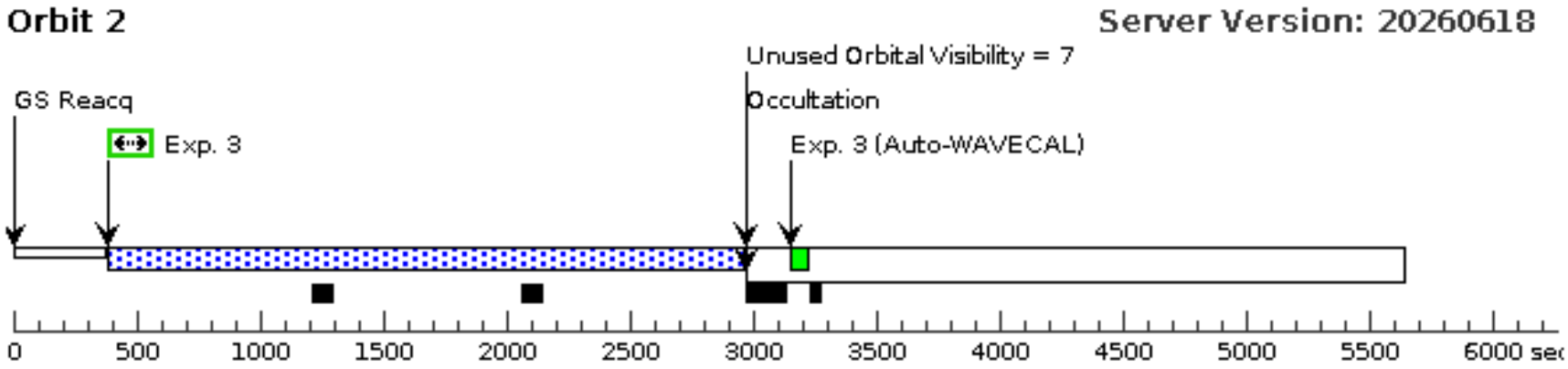
Comments: Recent AASVO magnitudes report V=10.87 on 2026.08.26 and ground based optical spectroscopy 2026.08.22 from ESO shows many absorption metallic lines, including 7Be in the spectrum. We have decide to revisit this target and trigger the HST ToO as light curve evolution is very slow and observe nova which has good visibility over the next 6-10 weeks. Its spectrophotometric evolution is similar to V1369Cen or V5668Sgr event and it is bright. Overall, it meets the trigger criteria outlined in the technical section of the original ToO proposal.
Category=STAR
Description=[NOVA-LIKE]
Extended=NO

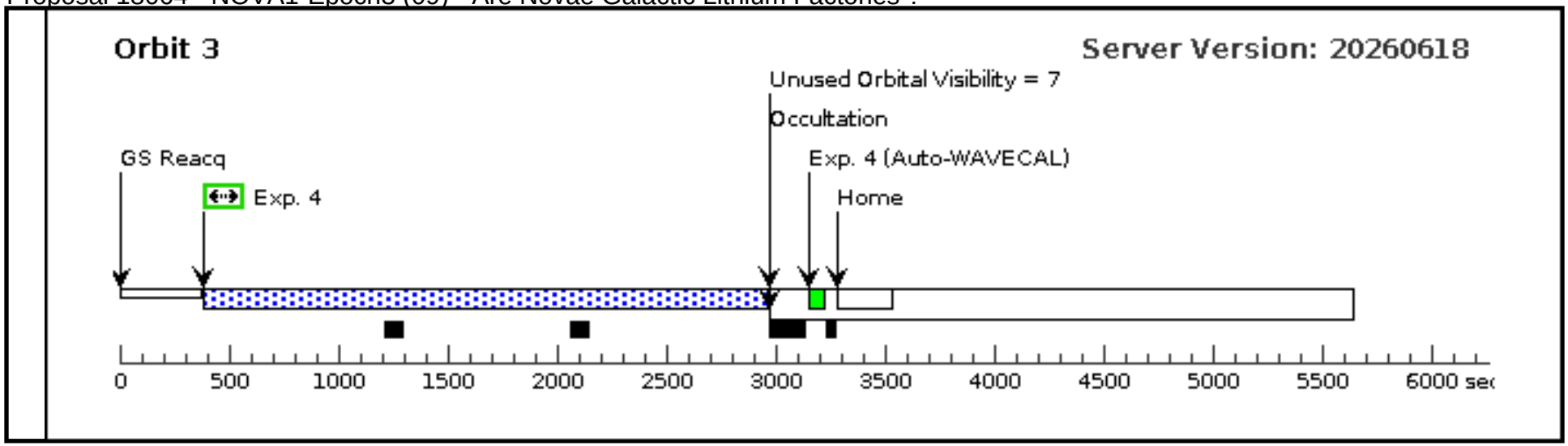
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ-NOVA1-Epoch3 (2021755)	(6) TCP-J05210763+2338194	STIS/CCD, ACQ, F25ND3	MIRROR				26.6 Secs (26.6 Secs) *[==>]*	***[1]***
	Comments: Epoch 3 Visit to NOVA 2 (ON-HOLD) for cadence assessment and science optimization after initial ToO trigger visit (Epoch 1). *Follow-up after trigger on TCP J05210763+2338194 discovered on 2026-08-06.4109 UT with reported V=10.5. AAVSO reported light curve measurements show that the evolution is very slow (little change in V mag).* *STIS.ta.2367639 suggests a S/N = 40.0 in 1.6194s with a time to saturation of 231.31s F25ND3 with V=10.87 (reported magnitude on 2026-08-25) assuming with E(B-V) = 0.7 and Bruzual Synthetic Stellar Spectra A 0 V*								
2	TILT-2762-NOVA1-Epoch3 (2022856)	(6) TCP-J05210763+2338194	STIS/NUV-MAMA, TIME-TAG, 0.2X0.2	E230H 2762 A	BUFFER-TIME=639.0			1910 Secs (1910 Secs) *[==>]*	***[1]***
	Comments: OB for target with V = 9.5 mag, STIS ETC v33.2 | AOV Bruzual spectral type, E(B-V) = 0.3, SNR >=12 @ 2800AA (near MgII line position). TIME-TAG mode for the MAMA detectors is used, as it offers several advantages and increases the legacy value of the observations. *Followup after trigger on TCP J05210763+2338194 discovered on 2026-08-06.4109 UT with reported V=10.5. AAVSO reported light curve measurements show that the evolution is very slow (little change in V mag) .*								
3	TILT-3012-NOVA1-Epoch3-ExposureA (2022857)	(6) TCP-J05210763+2338194	STIS/NUV-MAMA, TIME-TAG, 0.2X0.2	E230H 3012 A	BUFFER-TIME=839.0			2562 Secs (2562 Secs) *[==>]*	***[2]***
	Comments: OB for target with V = 9.5 mag, STIS ETC v33.2 | AOV Bruzual spectral type, E(B-V) = 0.3, SNR >=9 @ 3130AA (near 7BeII line position). Split between orbits. TIME-TAG mode for the MAMA detectors is used, as it offers several advantages and increases the legacy value of the observations. Two exposures (one orbit each) are required to reach the minimum SNR requirements outlined in the proposal for this epoch when the source has faded on brightness. *Followup after trigger on TCP J05210763+2338194 discovered on 2026-08-06.4109 UT with reported V=10.5. AAVSO reported light curve measurements show that the evolution is very slow (little change in V mag) .*								
4	TILT-3012-NOVA1-Epoch3-ExposureB (2022857)	(6) TCP-J05210763+2338194	STIS/NUV-MAMA, TIME-TAG, 0.2X0.2	E230H 3012 A	BUFFER-TIME=839.0			2562 Secs (2562 Secs) *[==>]*	***[3]***
	Comments: OB for target with V = 9.5 mag, STIS ETC v33.2 | AOV Bruzual spectral type, E(B-V) = 0.3, SNR >=9 @ 3130AA (near 7BeII line position). Split between orbits. TIME-TAG mode for the MAMA detectors is used, as it offers several advantages and increases the legacy value of the observations. Two exposures (one orbit each) are required to reach the minimum SNR requirements outlined in the proposal for this epoch when the source has faded on brightness. *Followup after trigger on TCP J05210763+2338194 discovered on 2026-08-06.4109 UT with reported V=10.5. AAVSO reported light curve measurements show that the evolution is very slow (little change in V mag) .*								

Orbit Structure



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