18073 - Using Early FUV Spectra of Type IIP/L Supernovae to Elucidate Mass Loss in Red Supergiants

Cycle: 33, Proposal Category: GO

(UV Initiative)

(Availability Mode: SUPPORTED)

INVESTIGATORS

Name	*Institution*
Dr. Kyra Azalee Bostroem (PI) (Contact)	**University of Arizona**
Dr. Jennifer Andrews (CoI)	NOIRLab - Gemini North (HI)
Dr. Yize Dong (CoI)	Harvard University
Emily Hoang (CoI)	University of California - Davis
Prof. Griffin Hosseinzadeh (CoI)	University of California - San Diego
Daryl Janzen (CoI) (CSA Member)	University of Saskatchewan
Dr. Jacob Jencson (CoI)	California Institute of Technology
Dr. Saurabh W. Jha (CoI)	Rutgers the State University of New Jersey
Dr. Michael Jon Lundquist (CoI)	California Association for Research in Astronomy (CARA)
Ms. Darshana Mehta (CoI)	University of California - Davis
Mr. Nicolas Eduardo Meza Retamal (CoI)	University of California - Davis
Dr. Aravind Pazhayath Ravi (CoI)	University of California - Davis
Jeniveve Pearson (CoI)	University of Arizona
Prof. David J. Sand (CoI)	University of Arizona
Dr. Manisha Shrestha (CoI)	Monash University
Prof. Stefano Valenti (CoI)	University of California - Davis
Dr. Lindsey Kwok (CoI)	Northwestern University

VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) SN2026AYT	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	3	05-Mar-2026 15:00:16.0	yes
05	(1) SN2026AYT	STIS/CCD STIS/FUV-MAMA	1	05-Mar-2026 15:00:17.0	yes
06	(1) SN2026AYT	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	1	05-Mar-2026 15:00:17.0	yes
07	(1) SN2026AYT	STIS/CCD STIS/NUV-MAMA	1	05-Mar-2026 15:00:18.0	yes
02	(1) SN2026AYT	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	3	05-Mar-2026 15:00:19.0	yes
08	(1) SN2026AYT	STIS/CCD STIS/FUV-MAMA	1	05-Mar-2026 15:00:20.0	yes
09	(1) SN2026AYT	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	1	05-Mar-2026 15:00:20.0	yes
10	(1) SN2026AYT	STIS/CCD STIS/NUV-MAMA	1	05-Mar-2026 15:00:21.0	yes
03	(1) SN2026AYT	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	2	05-Mar-2026 15:00:22.0	yes
11	(1) SN2026AYT	STIS/CCD STIS/FUV-MAMA	1	05-Mar-2026 15:00:22.0	yes
12	(1) SN2026AYT	STIS/CCD STIS/NUV-MAMA	1	05-Mar-2026 15:00:23.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
04	(1) SN2026AYT	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	4	05-Mar-2026 15:00:24.0	yes
13	(1) SN2026AYT	STIS/CCD STIS/FUV-MAMA STIS/NUV-MAMA	4	05-Mar-2026 15:00:26.0	yes
14	(1) SN2026AYT	STIS/CCD STIS/NUV-MAMA	4	05-Mar-2026 15:00:27.0	yes

28 Total Orbits Used

ABSTRACT

Red supergiants, the progenitors of Type IIP/L supernovae lose a significant fraction of their initial mass during their lifetimes. However, there is no first-principle description of this mass loss and empirical prescriptions vary by orders of magnitude. On top of this uncertainty, recent optical supernova observations show periods of enhanced mass-loss occur just prior to explosion which are not described by any model. It is not known what fraction of red supergiants experience this kind of eruptive mass loss. While optical light curves and spectroscopy can probe the most extreme mass-loss rates, the UV is significantly more sensitive to interaction between the supernova ejecta and circumstellar material, probing mass-loss rates from nominal red supergiant winds to the strongest outbursts. Additionally, during the first week of evolution, while the optical is relatively featureless, the FUV is full of high-ioniztion and strong resonance lines which provide information about the metalicity of the progenitor star, temperature and density of the supernova ejecta, and the composition of the circumstellar material. These observations are also critical for interpreting the growing number of supernovae discovered at high redshift. However, early FUV observations are challenging: only ~1 infant supernova per year is observable with HST. In this proposal, we request a disruptive ToO observation to study a nearby, infant, Type IIP/L supernova in the FUV and NUV. These observations will map the final phases of red supergiant mass loss, connect them to the properties of the supernova and progenitor star, and shed light on the UV diversity of supernovae.

OBSERVING DESCRIPTION

We will trigger this ToO on a Type II supernova that is UV bright and discovered within 24 hours of explosion. We would like the First visit to execute as soon as possible with the second visit executing a day later and the third visit a day after that. The final visit will execute 7 days after the last visit.

We request a full GS acquisition at the beginning of each orbit of the first three visits as the supernova will change on the timescale of a day and thus these observations are not repeatable.

We use a fixed target as a placeholder for the real target to easily vet the visibility of new candidates. The coordinates will be updated before the ToO trigger is submitted.

Visit

Proposal 18073, Visit 01, implementation Thu Mar 05 20:00:28 GMT 2026

Diagnostic Status: No Diagnostics

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

Special Requirements: ON HOLD ; TOO RESPONSE TIME 2.0D

Comments: Please put a full GS acq at the beginning of each orbit so if one orbit fails the others have a chance of succeeding. I can adjust the exposure times if needed

First epoch should be executed as soon as possible after trigger
For SN with initial brightness around r=17 mag

On Hold Comments: Waiting for a suitable supernova to explode.
I understand this response time is likely a lower limit on what STScI is capable of but the sooner the better for this program

Fixed Targets

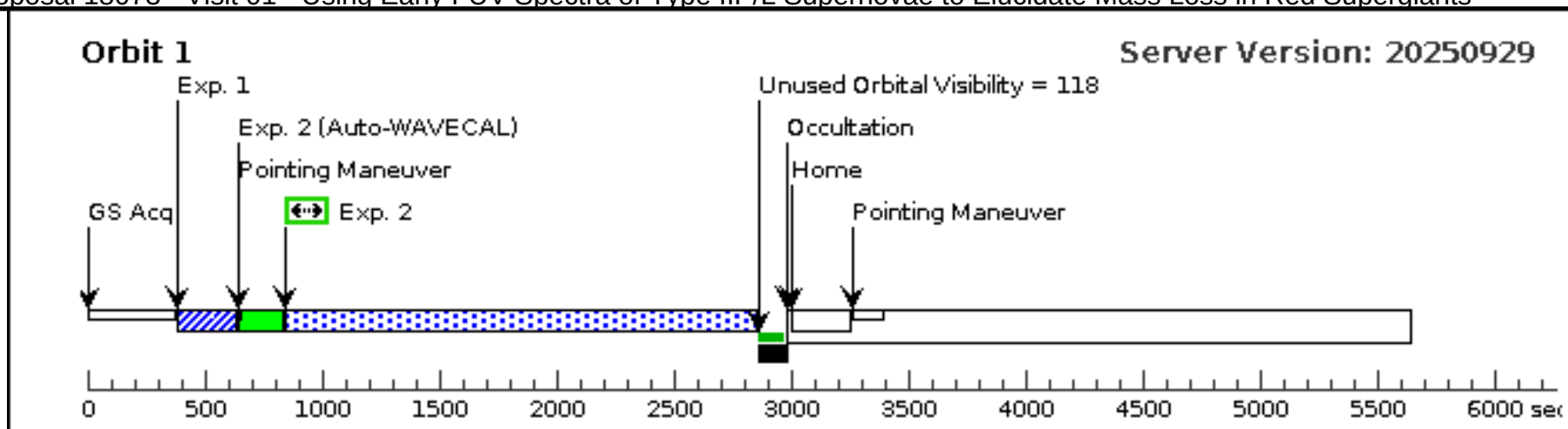
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SN2026AYT	RA: 09 27 23.3900 (141.8474583d) Dec: -32 00 30.88 (-32.00858d) Equinox: J2000	Epoch of Position: 2000	V=17	Reference Frame: ICRS

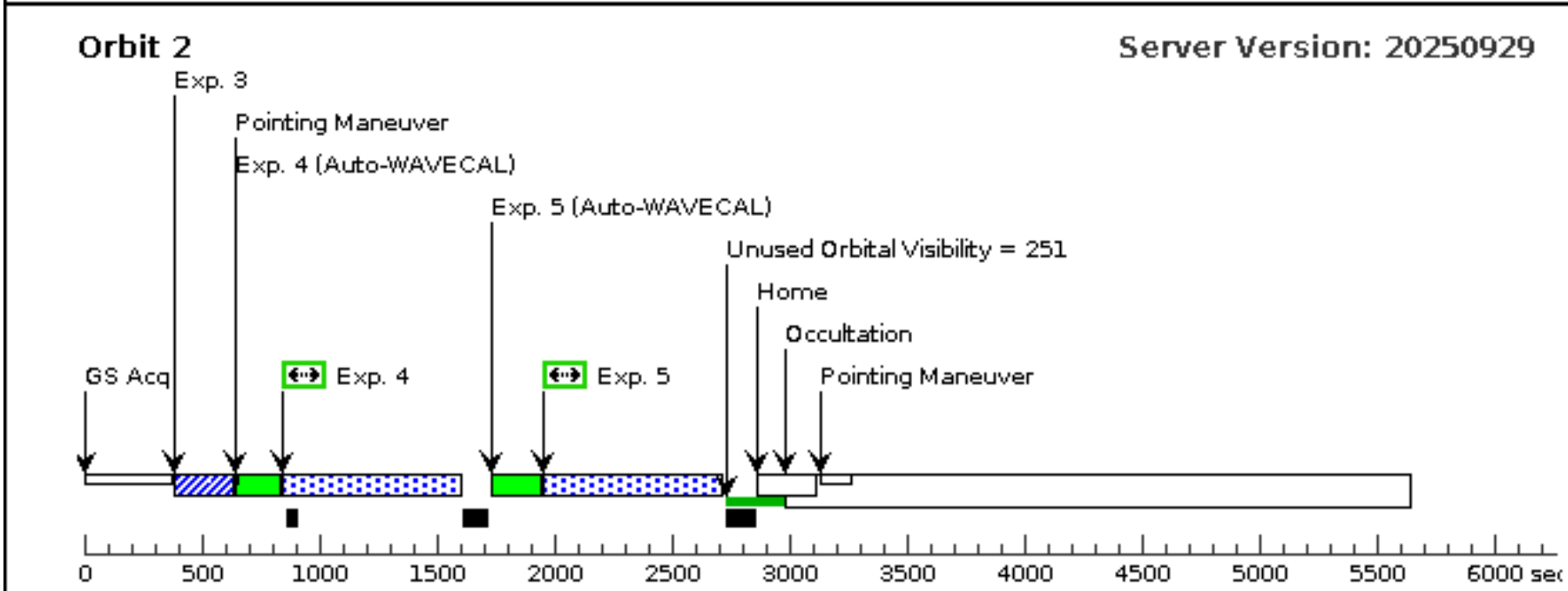
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[SUPERNOVA TYPE II]
Extended=NO

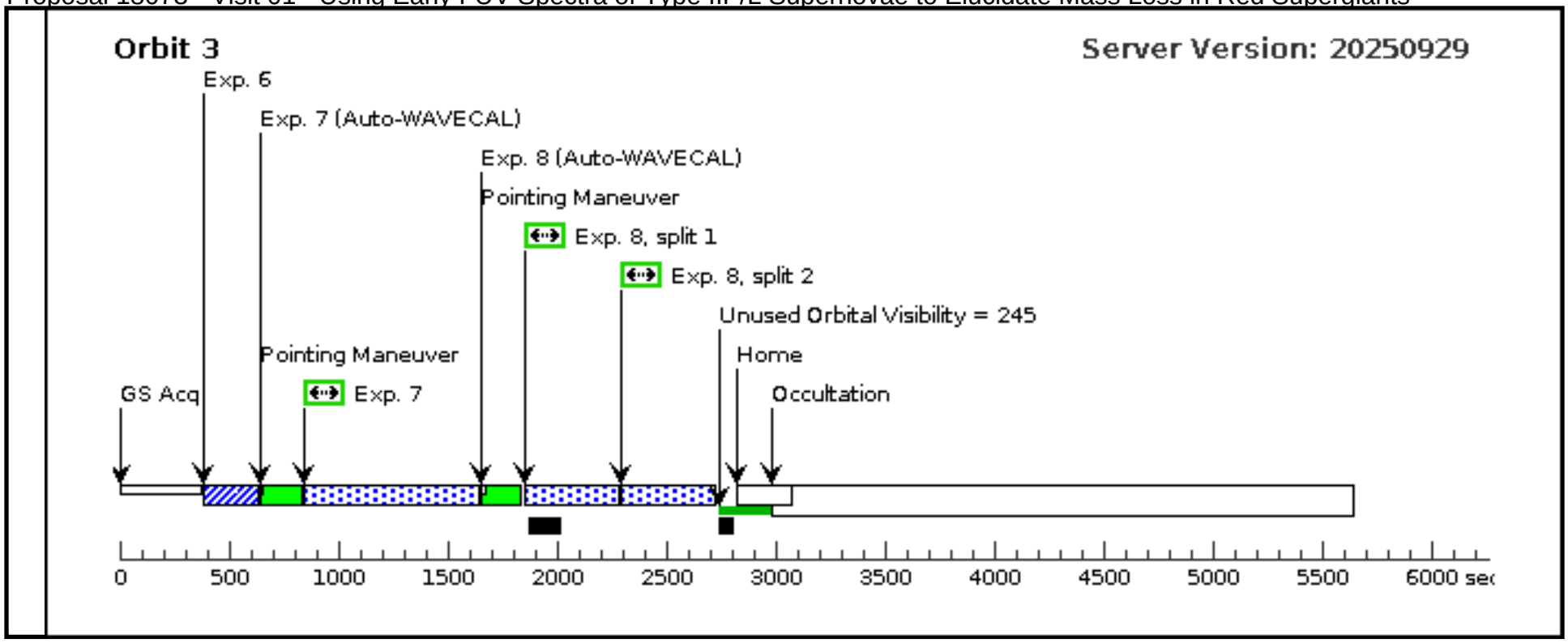
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	TA (STIS.ta.2026901)	(1) SN2026AYT	STIS/CCD, ACQ, F28X50LP	MIRROR				5 Secs (5 Secs) *[==>]*	***[1]***
2	G140L (STIS.sp.2026916)	(1) SN2026AYT	STIS/FUV-MAMA, ACCUM, 52X0.2	G140L 1425 A				2000 Secs (2000 Secs) *[==>]*	***[1]***
3	TA (STIS.ta.2026901)	(1) SN2026AYT	STIS/CCD, ACQ, F28X50LP	MIRROR		NEW OBSET FULL ACQ		5 Secs (5 Secs) *[==>]*	***[2]***
4	G140L (STIS.sp.2026916)	(1) SN2026AYT	STIS/FUV-MAMA, ACCUM, 52X0.2	G140L 1425 A				750 Secs (750 Secs) *[==>]*	***[2]***
5	G230L (STIS.sp.2026911)	(1) SN2026AYT	STIS/NUV-MAMA, ACCUM, 52X0.2	G230L 2376 A				750 Secs (750 Secs) *[==>]*	***[2]***
6	TA (STIS.ta.2026901)	(1) SN2026AYT	STIS/CCD, ACQ, F28X50LP	MIRROR		NEW OBSET FULL ACQ		5 Secs (5 Secs) *[==>]*	***[3]***
7	G230L (STIS.sp.2026911)	(1) SN2026AYT	STIS/NUV-MAMA, ACCUM, 52X0.2	G230L 2376 A				790 Secs (790 Secs) *[==>]*	***[3]***
8	G430L (STIS.sp.2026917)	(1) SN2026AYT	STIS/CCD, ACCUM, 52X0.2E1	G430L 4300 A				790 Secs (790 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	***[3]***

Orbit Structure






Orbit 3
Server Version: 20250929
Exp. 6
Exp. 7 (Auto-WAVECAL)
Exp. 8 (Auto-WAVECAL)
Pointing Maneuver
Exp. 8, split 1
Exp. 8, split 2
Unused Orbital Visibility = 245
Home
Occultation
Pointing Maneuver
Exp. 7
GS Acq
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 18073, Visit 1a (05), completed Thu Mar 05 20:00:28 GMT 2026

Diagnostic Status: No Diagnostics

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

Special Requirements: TOO RESPONSE TIME 2.0D

Comments: Please put a full GS acq at the beginning of each orbit so if one orbit fails the others have a chance of succeeding. I can adjust the exposure times if needed

First epoch should be executed as soon as possible after trigger
For SN with initial brightness around r=17 mag

Fixed Targets

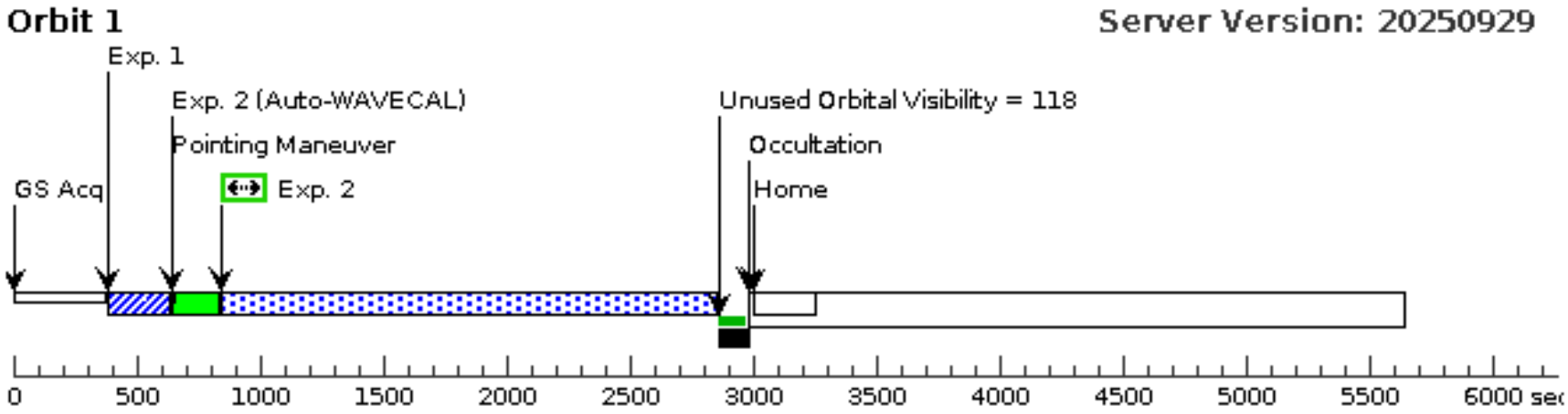
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SN2026AYT	RA: 09 27 23.3900 (141.8474583d) Dec: -32 00 30.88 (-32.00858d) Equinox: J2000	Epoch of Position: 2000	V=17	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[SUPERNOVA TYPE II]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	TA (STIS.ta.2026901)	(1) SN2026AYT	STIS/CCD, ACQ, F28X50LP	MIRROR				5 Secs (5 Secs) *[==>]*	*[1]*
2	G140L (STIS.sp.2026916)	(1) SN2026AYT	STIS/FUV-MAMA, ACCUM, 52X0.2	G140L 1425 A				2000 Secs (2000 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 18073, Visit 1b (06), completed Thu Mar 05 20:00:28 GMT 2026

Diagnostic Status: No Diagnostics

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

Special Requirements: AFTER 05 BY 0 H TO 8 H; TOO RESPONSE TIME 2.0D

Comments: Please put a full GS acq at the beginning of each orbit so if one orbit fails the others have a chance of succeeding. I can adjust the exposure times if needed

First epoch should be executed as soon as possible after trigger
For SN with initial brightness around r=17 mag

Fixed Targets

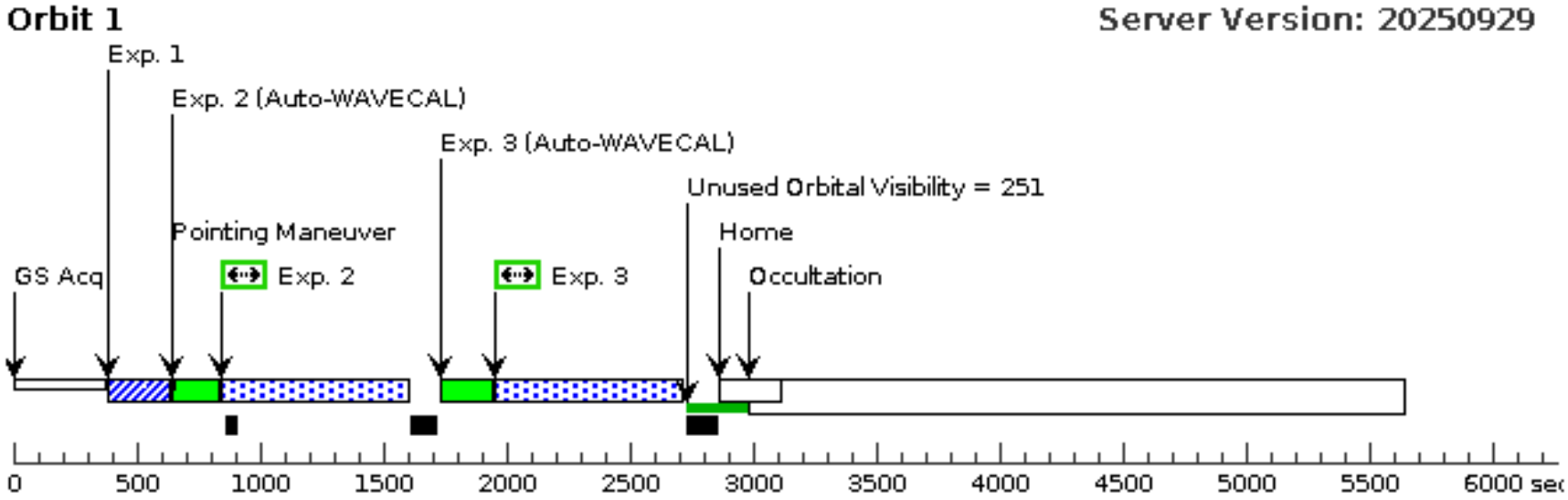
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SN2026AYT	RA: 09 27 23.3900 (141.8474583d) Dec: -32 00 30.88 (-32.00858d) Equinox: J2000	Epoch of Position: 2000	V=17	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[SUPERNOVA TYPE II]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	TA (STIS.ta.2026901)	(1) SN2026AYT	STIS/CCD, ACQ, F28X50LP	MIRROR		NEW OBSET FULL ACQ		5 Secs (5 Secs) *[==>]*	 ***[1]***
2	G140L (STIS.sp.2026916)	(1) SN2026AYT	STIS/FUV-MAMA, ACCUM, 52X0.2	G140L 1425 A				750 Secs (750 Secs) *[==>]*	 ***[1]***
3	G230L (STIS.sp.2026911)	(1) SN2026AYT	STIS/NUV-MAMA, ACCUM, 52X0.2	G230L 2376 A				750 Secs (750 Secs) *[==>]*	 ***[1]***

Orbit Structure



Visit

Proposal 18073, Visit 1c (07), completed Thu Mar 05 20:00:28 GMT 2026

Diagnostic Status: No Diagnostics

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

Special Requirements: AFTER 05 BY 0 H TO 8 H; TOO RESPONSE TIME 2.0D

Comments: Please put a full GS acq at the beginning of each orbit so if one orbit fails the others have a chance of succeeding. I can adjust the exposure times if needed

First epoch should be executed as soon as possible after trigger
For SN with initial brightness around r=17 mag

Fixed Targets

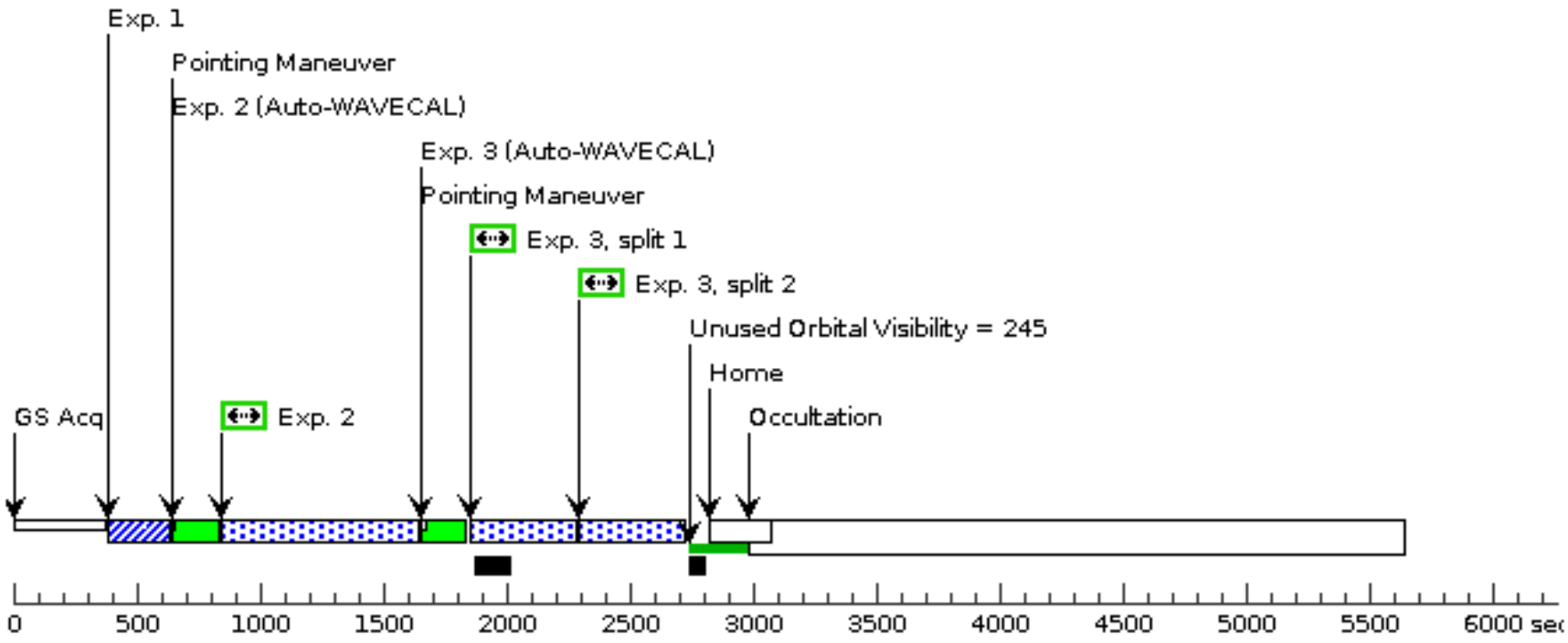
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SN2026AYT	RA: 09 27 23.3900 (141.8474583d) Dec: -32 00 30.88 (-32.00858d) Equinox: J2000	Epoch of Position: 2000	V=17	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[SUPERNOVA TYPE II]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	TA (STIS.ta.2026901)	(1) SN2026AYT	STIS/CCD, ACQ, F28X50LP	MIRROR		NEW OBSET FULL ACQ		5 Secs (5 Secs) *[==>]*	 ***[1]***
2	G230L (STIS.sp.2026911)	(1) SN2026AYT	STIS/NUV-MAMA, ACCUM, 52X0.2	G230L 2376 A				790 Secs (790 Secs) *[==>]*	 ***[1]***
3	G430L (STIS.sp.2026917)	(1) SN2026AYT	STIS/CCD, ACCUM, 52X0.2E1	G430L 4300 A				790 Secs (790 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	 ***[1]***

Orbit Structure



Visit

Proposal 18073, Visit 02, implementation Thu Mar 05 20:00:28 GMT 2026

Diagnostic Status: No Diagnostics

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

Special Requirements: AFTER 01 BY 18 H TO 28 H; ON HOLD

Comments: Please put a full GS acq at the beginning of each orbit so if one orbit fails the others have a chance of succeeding. I can adjust the exposure times if needed

Second epoch should be executed 24 hours after first visit
For SN with initial brightness around r=17 mag
If possible execute at same orientation as visit 1

On Hold Comments: Waiting for a suitable supernova to explode.

Fixed Targets

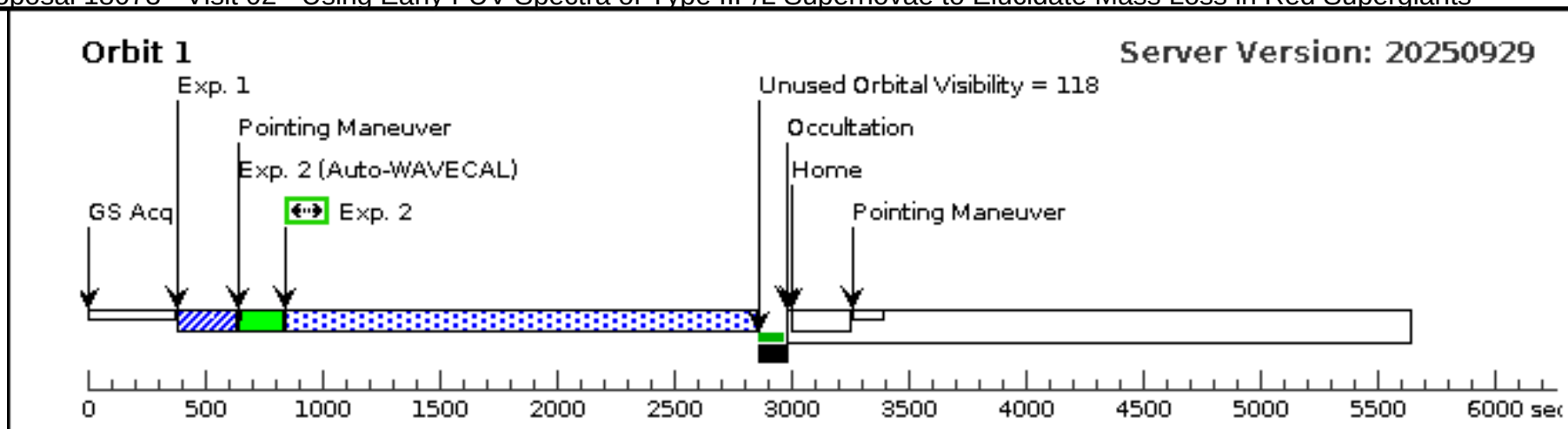
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SN2026AYT	RA: 09 27 23.3900 (141.8474583d) Dec: -32 00 30.88 (-32.00858d) Equinox: J2000	Epoch of Position: 2000	V=17	Reference Frame: ICRS

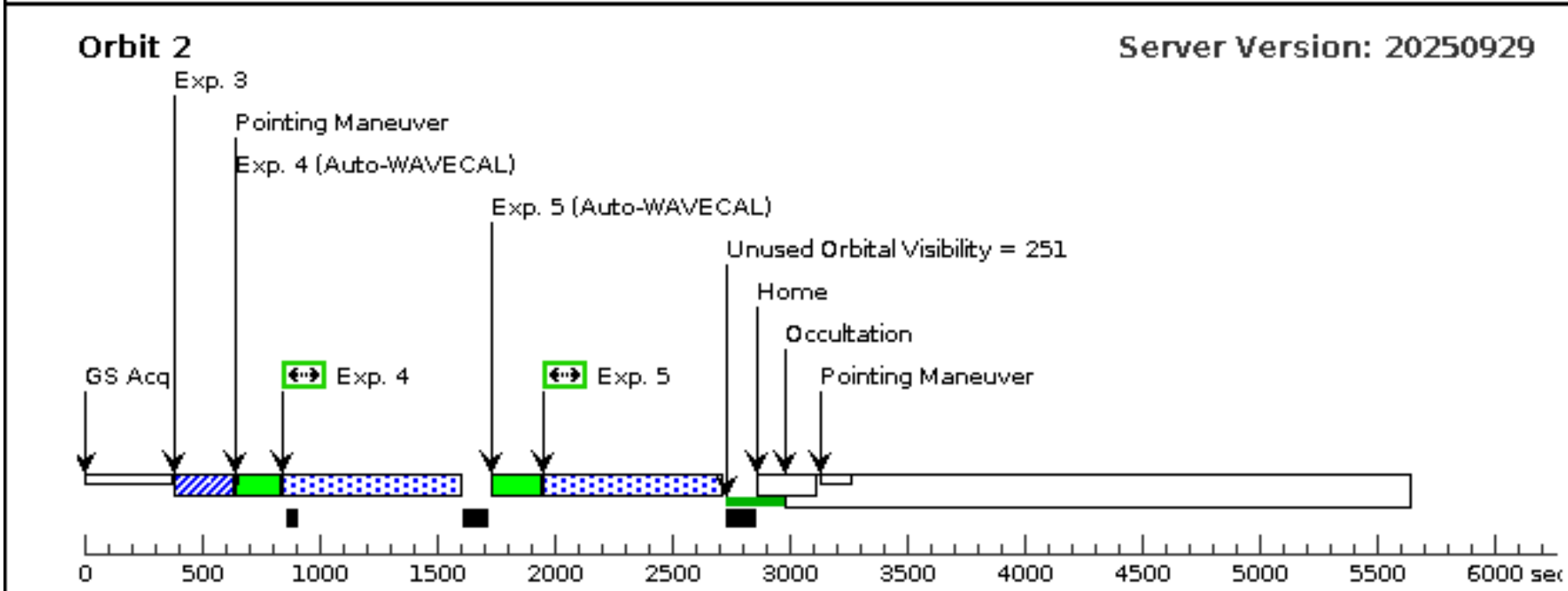
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[SUPERNOVA TYPE II]
Extended=NO

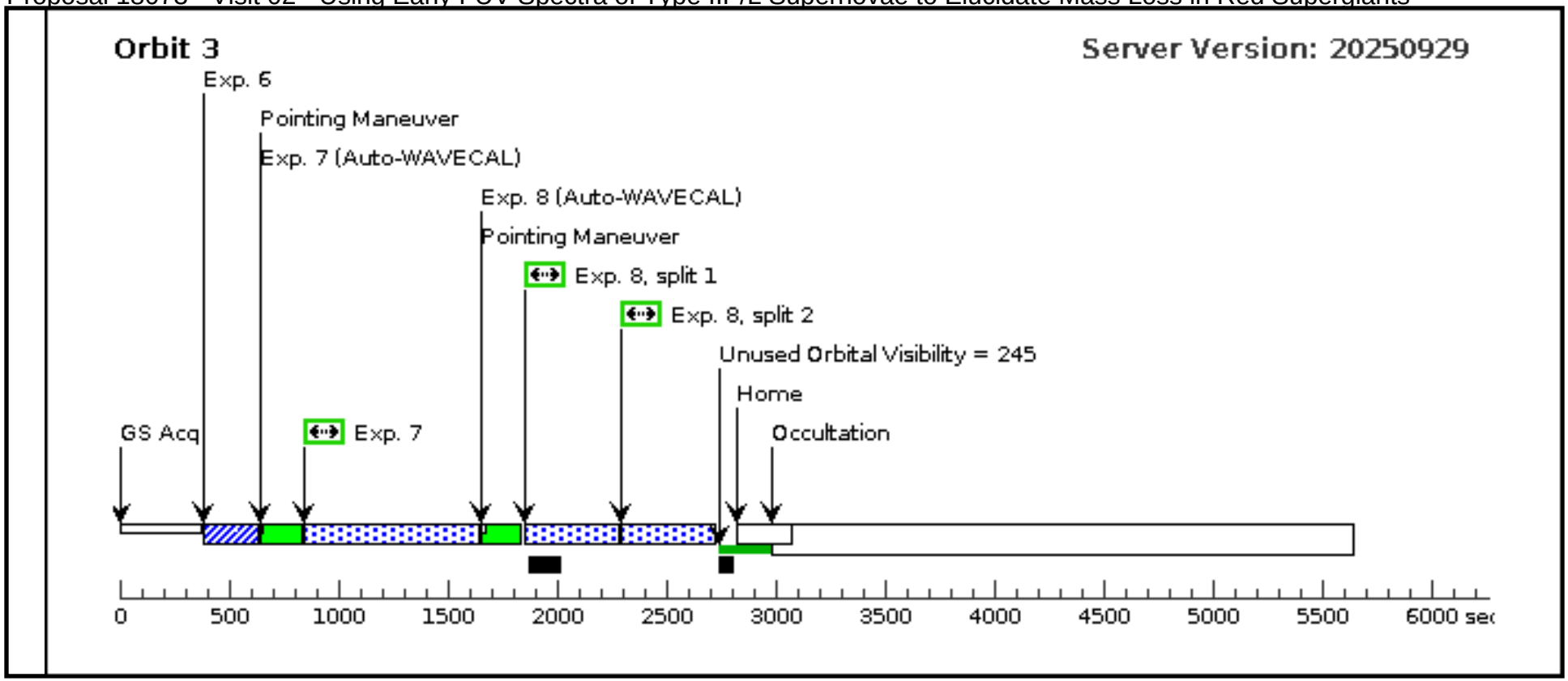
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	TA (STIS.im.2026897)	(1) SN2026AYT	STIS/CCD, ACQ, F28X50LP	MIRROR				5 Secs (5 Secs) *[==>]*	***[1]***
2	G140L (STIS.sp.2026916)	(1) SN2026AYT	STIS/FUV-MAMA, ACCUM, 52X0.2	G140L 1425 A				2000 Secs (2000 Secs) *[==>]*	***[1]***
3	TA (STIS.ta.2026901)	(1) SN2026AYT	STIS/CCD, ACQ, F28X50LP	MIRROR		NEW OBSET FULL ACQ		5 Secs (5 Secs) *[==>]*	***[2]***
4	G140L (STIS.sp.2026916)	(1) SN2026AYT	STIS/FUV-MAMA, ACCUM, 52X0.2	G140L 1425 A				750 Secs (750 Secs) *[==>]*	***[2]***
5	G230L (STIS.sp.2026911)	(1) SN2026AYT	STIS/NUV-MAMA, ACCUM, 52X0.2	G230L 2376 A				750 Secs (750 Secs) *[==>]*	***[2]***
6	TA (STIS.ta.2026901)	(1) SN2026AYT	STIS/CCD, ACQ, F28X50LP	MIRROR		NEW OBSET FULL ACQ		5 Secs (5 Secs) *[==>]*	***[3]***
7	G230L (STIS.sp.2026911)	(1) SN2026AYT	STIS/NUV-MAMA, ACCUM, 52X0.2	G230L 2376 A				790 Secs (790 Secs) *[==>]*	***[3]***
8	G430L (STIS.sp.2026917)	(1) SN2026AYT	STIS/CCD, ACCUM, 52X0.2E1	G430L 4300 A				790 Secs (790 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	***[3]***

Orbit Structure






Orbit 3
Server Version: 20250929
Exp. 6
Pointing Maneuver
Exp. 7 (Auto-WAVECAL)
Exp. 8 (Auto-WAVECAL)
Pointing Maneuver
Exp. 8, split 1
Exp. 8, split 2
Unused Orbital Visibility = 245
Home
Occultation
GS Acq
Exp. 7
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 18073, Visit 2a (08), completed Thu Mar 05 20:00:28 GMT 2026

Diagnostic Status: No Diagnostics

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

Special Requirements: AFTER 05 BY 18 H TO 28 H

Comments: Please put a full GS acq at the beginning of each orbit so if one orbit fails the others have a chance of succeeding. I can adjust the exposure times if needed

Second epoch should be executed 24 hours after first visit
For SN with initial brightness around r=17 mag
If possible execute at same orientation as visit 1

Fixed Targets

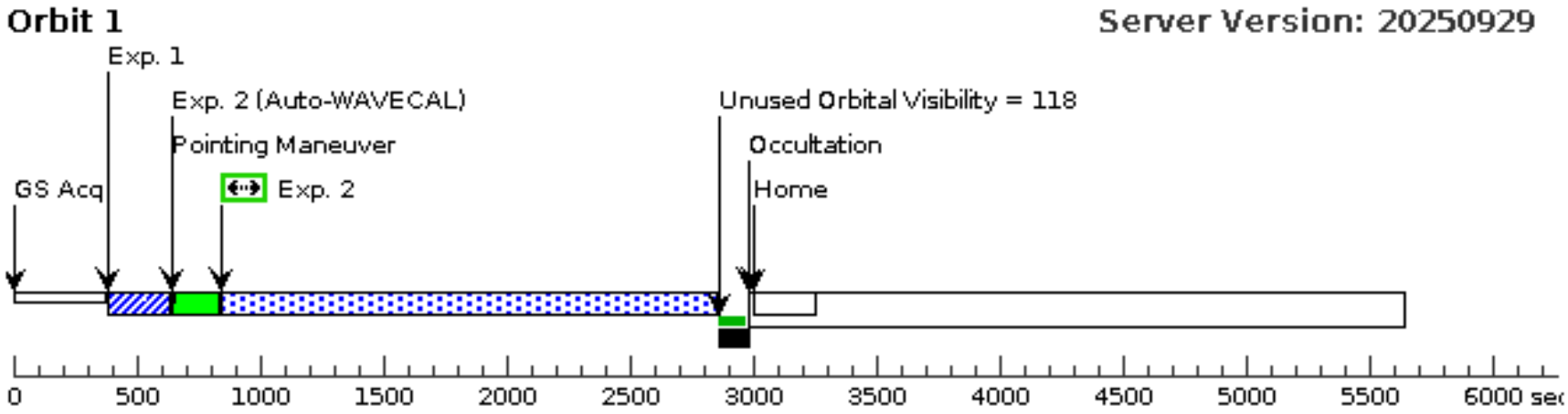
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SN2026AYT	RA: 09 27 23.3900 (141.8474583d) Dec: -32 00 30.88 (-32.00858d) Equinox: J2000	Epoch of Position: 2000	V=17	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[SUPERNOVA TYPE II]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	TA (STIS.im.2026897)	(1) SN2026AYT	STIS/CCD, ACQ, F28X50LP	MIRROR				5 Secs (5 Secs) *[==>]*	*[1]*
2	G140L (STIS.sp.2026916)	(1) SN2026AYT	STIS/FUV-MAMA, ACCUM, 52X0.2	G140L 1425 A				2000 Secs (2000 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 18073, Visit 2b (09), completed Thu Mar 05 20:00:28 GMT 2026

Diagnostic Status: No Diagnostics

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

Special Requirements: AFTER 08 BY 0 H TO 8 H

Comments: Please put a full GS acq at the beginning of each orbit so if one orbit fails the others have a chance of succeeding. I can adjust the exposure times if needed

Second epoch should be executed 24 hours after first visit
For SN with initial brightness around r=17 mag
If possible execute at same orientation as visit 1

Fixed Targets

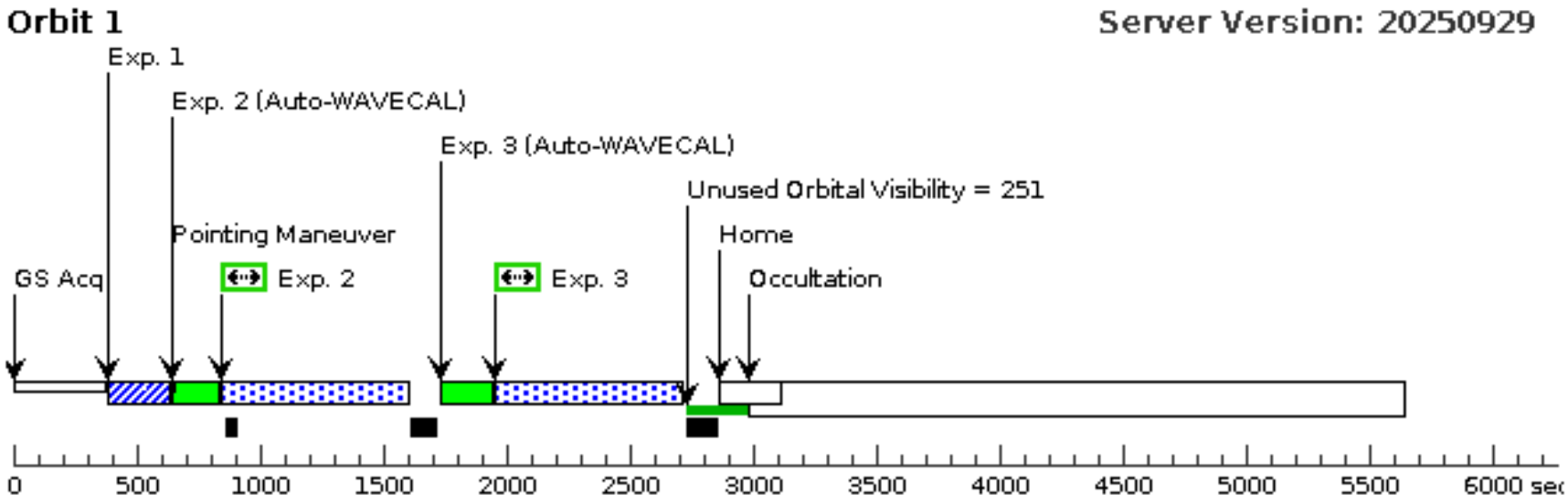
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SN2026AYT	RA: 09 27 23.3900 (141.8474583d) Dec: -32 00 30.88 (-32.00858d) Equinox: J2000	Epoch of Position: 2000	V=17	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[SUPERNOVA TYPE II]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	TA (STIS.ta.2026901)	(1) SN2026AYT	STIS/CCD, ACQ, F28X50LP	MIRROR		NEW OBSET FULL ACQ		5 Secs (5 Secs) *[==>]*	 ***[1]***
2	G140L (STIS.sp.2026916)	(1) SN2026AYT	STIS/FUV-MAMA, ACCUM, 52X0.2	G140L 1425 A				750 Secs (750 Secs) *[==>]*	 ***[1]***
3	G230L (STIS.sp.2026911)	(1) SN2026AYT	STIS/NUV-MAMA, ACCUM, 52X0.2	G230L 2376 A				750 Secs (750 Secs) *[==>]*	 ***[1]***

Orbit Structure



Visit

Proposal 18073, Visit 2c (10), completed Thu Mar 05 20:00:28 GMT 2026

Diagnostic Status: No Diagnostics

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

Special Requirements: AFTER 08 BY 0 H TO 8 H

Comments: Please put a full GS acq at the beginning of each orbit so if one orbit fails the others have a chance of succeeding. I can adjust the exposure times if needed

Second epoch should be executed 24 hours after first visit
For SN with initial brightness around r=17 mag
If possible execute at same orientation as visit 1

Fixed Targets

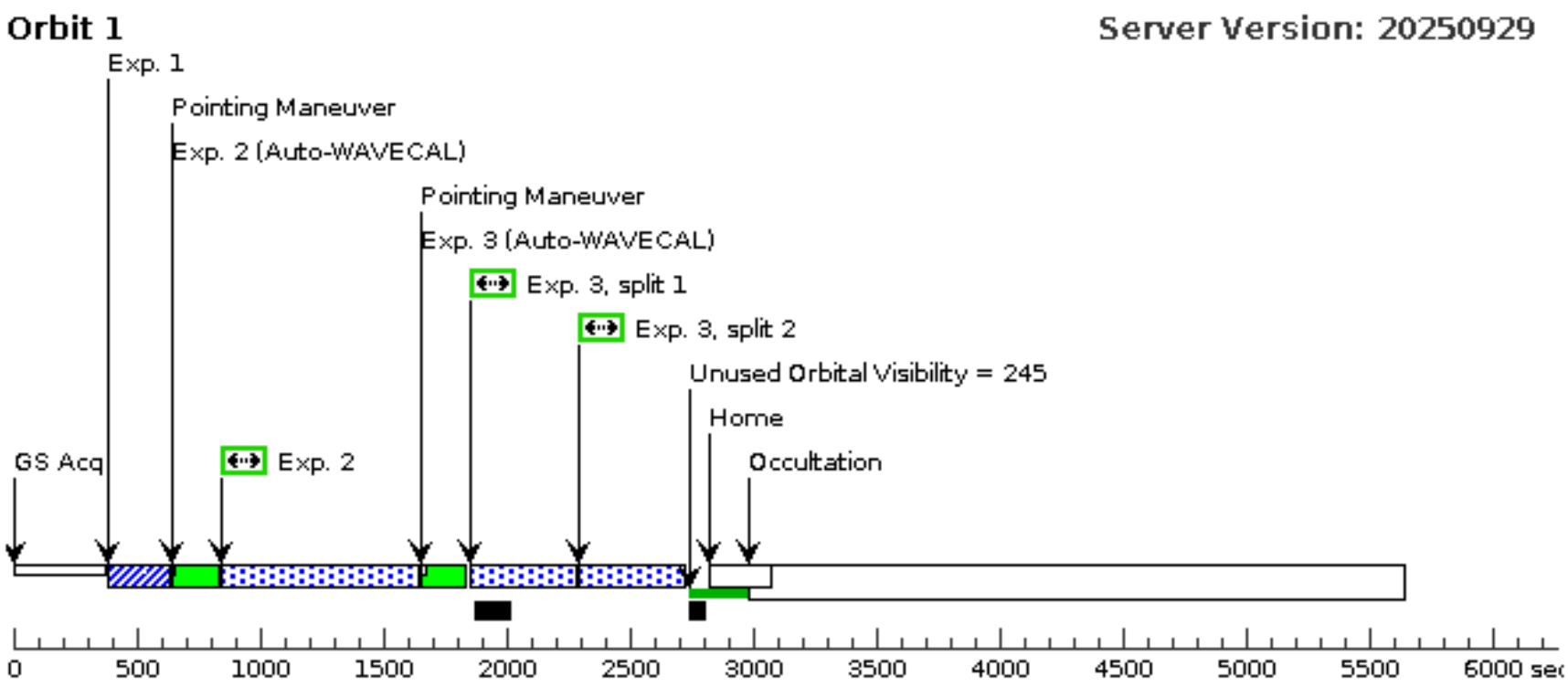
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SN2026AYT	RA: 09 27 23.3900 (141.8474583d) Dec: -32 00 30.88 (-32.00858d) Equinox: J2000	Epoch of Position: 2000	V=17	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[SUPERNOVA TYPE II]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	TA (STIS.ta.2026901)	(1) SN2026AYT	STIS/CCD, ACQ, F28X50LP	MIRROR		NEW OBSET FULL ACQ		5 Secs (5 Secs) *[==>]*	***[1]***
2	G230L (STIS.sp.2026911)	(1) SN2026AYT	STIS/NUV-MAMA, ACCUM, 52X0.2	G230L 2376 A				790 Secs (790 Secs) *[==>]*	***[1]***
3	G430L (STIS.sp.2026917)	(1) SN2026AYT	STIS/CCD, ACCUM, 52X0.2E1	G430L 4300 A				790 Secs (790 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***

Orbit Structure



Visit

Proposal 18073, Visit 03, implementation Thu Mar 05 20:00:28 GMT 2026

Diagnostic Status: No Diagnostics

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

Special Requirements: AFTER 02 BY 18 H TO 24 H; ON HOLD

Comments: Please put a full GS acq at the beginning of each orbit so if one orbit fails the others have a chance of succeeding. I can adjust the exposure times if needed

Third epoch should be executed 24 hours after second visit and 48 hours after first visit
For SN with initial brightness around r=17 mag
If possible execute at same orientation as visit 1

On Hold Comments: Waiting for a suitable supernova to explode.

Fixed Targets

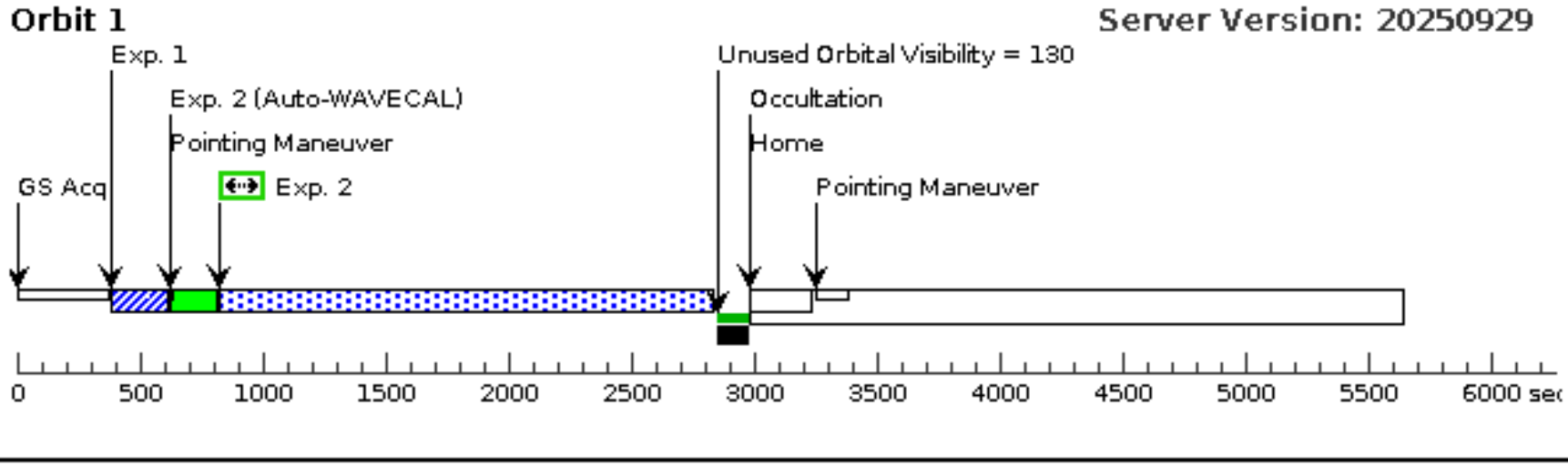
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SN2026AYT	RA: 09 27 23.3900 (141.8474583d) Dec: -32 00 30.88 (-32.00858d) Equinox: J2000	Epoch of Position: 2000	V=17	Reference Frame: ICRS

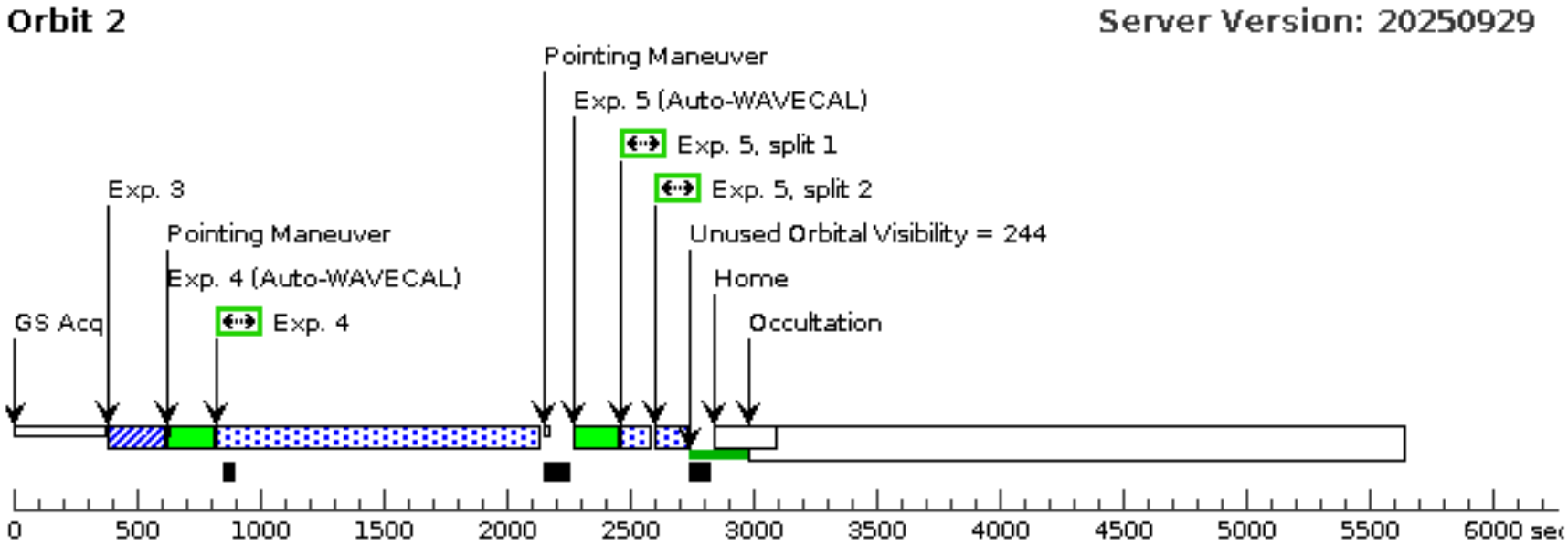
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[SUPERNOVA TYPE II]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	TA (STIS.ta.2026902)	(1) SN2026AYT	STIS/CCD, ACQ, F28X50LP	MIRROR				2 Secs (2 Secs) *[==>]*	***[1]***
2	G140L (STIS.sp.2026915)	(1) SN2026AYT	STIS/FUV-MAMA, ACCUM, 52X0.2	G140L 1425 A				2000 Secs (2000 Secs) *[==>]*	***[1]***
3	TA (STIS.ta.2026902)	(1) SN2026AYT	STIS/CCD, ACQ, F28X50LP	MIRROR		NEW OBSET FULL ACQ		2 Secs (2 Secs) *[==>]*	***[2]***
4	G230L (STIS.sp.2026912)	(1) SN2026AYT	STIS/NUV-MAMA, ACCUM, 52X0.2	G230L 2376 A				1300 Secs (1300 Secs) *[==>]*	***[2]***
5	G430L (STIS.sp.2026918)	(1) SN2026AYT	STIS/CCD, ACCUM, 52X0.2E1	G430L 4300 A				180 Secs (180 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	***[2]***

Orbit Structure





Visit

Proposal 18073, Visit 3a (11), completed Thu Mar 05 20:00:28 GMT 2026

Diagnostic Status: No Diagnostics

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

Special Requirements: AFTER 08 BY 18 H TO 24 H

Comments: Please put a full GS acq at the beginning of each orbit so if one orbit fails the others have a chance of succeeding. I can adjust the exposure times if needed

Third epoch should be executed 24 hours after second visit and 48 hours after first visit
For SN with initial brightness around r=17 mag
If possible execute at same orientation as visit 1

Fixed Targets

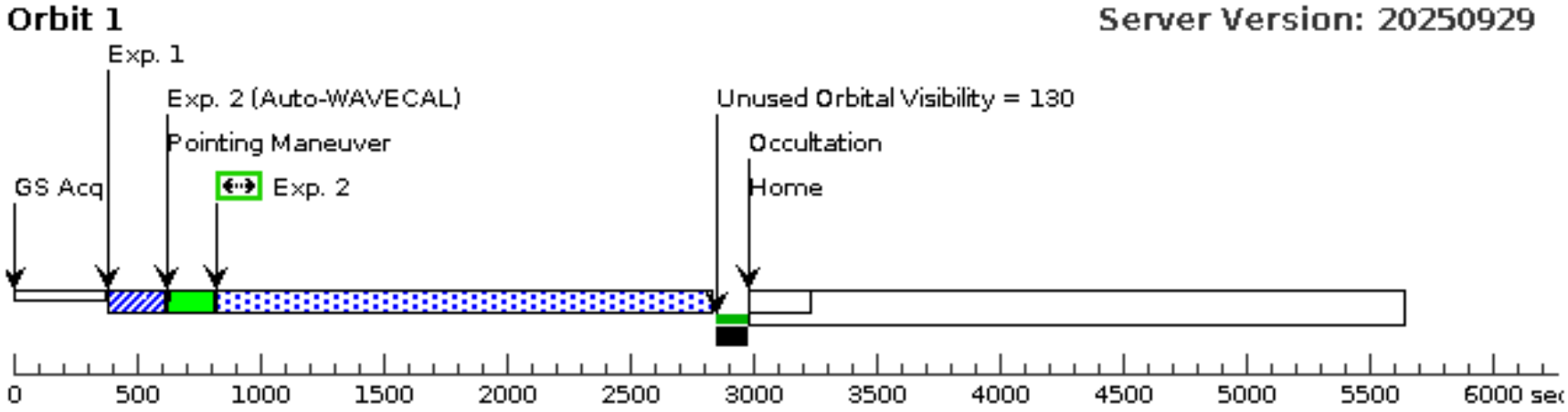
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SN2026AYT	RA: 09 27 23.3900 (141.8474583d) Dec: -32 00 30.88 (-32.00858d) Equinox: J2000	Epoch of Position: 2000	V=17	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[SUPERNOVA TYPE II]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	TA (STIS.ta.2026902)	(1) SN2026AYT	STIS/CCD, ACQ, F28X50LP	MIRROR				2 Secs (2 Secs) *[==>]*	*[1]*
2	G140L (STIS.sp.2026915)	(1) SN2026AYT	STIS/FUV-MAMA, ACCUM, 52X0.2	G140L 1425 A				2000 Secs (2000 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 18073, Visit 3b (12), completed Thu Mar 05 20:00:28 GMT 2026

Diagnostic Status: No Diagnostics

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

Special Requirements: AFTER 11 BY 0 H TO 8 H

Comments: Please put a full GS acq at the beginning of each orbit so if one orbit fails the others have a chance of succeeding. I can adjust the exposure times if needed

Third epoch should be executed 24 hours after second visit and 48 hours after first visit
For SN with initial brightness around r=17 mag
If possible execute at same orientation as visit 1

Fixed Targets

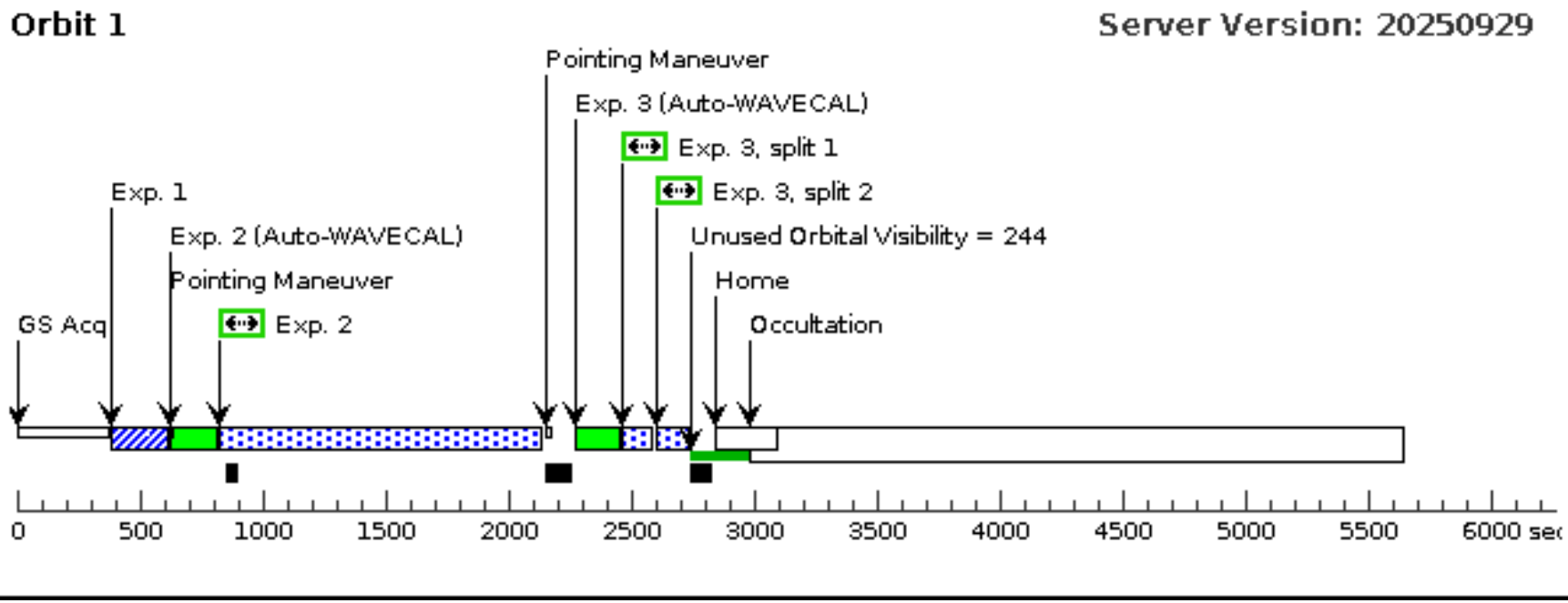
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SN2026AYT	RA: 09 27 23.3900 (141.8474583d) Dec: -32 00 30.88 (-32.00858d) Equinox: J2000	Epoch of Position: 2000	V=17	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[SUPERNOVA TYPE II]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	TA (STIS.ta.2026902)	(1) SN2026AYT	STIS/CCD, ACQ, F28X50LP	MIRROR		NEW OBSET FULL ACQ		2 Secs (2 Secs) *[==>]*	 ***[1]***
2	G230L (STIS.sp.2026912)	(1) SN2026AYT	STIS/NUV-MAMA, ACCUM, 52X0.2	G230L 2376 A				1300 Secs (1300 Secs) *[==>]*	 ***[1]***
3	G430L (STIS.sp.2026918)	(1) SN2026AYT	STIS/CCD, ACCUM, 52X0.2E1	G430L 4300 A				180 Secs (180 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	 ***[1]***

Orbit Structure



Visit

Proposal 18073, Visit 04, implementation Thu Mar 05 20:00:28 GMT 2026

Diagnostic Status: No Diagnostics

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

Special Requirements: AFTER 03 BY 6 D TO 8 D; ON HOLD

Comments: Please put a full GS acq at the beginning of each orbit so if one orbit fails the others have a chance of succeeding. I can adjust the exposure times if needed

fourth epoch should be executed 7 days after third visit
For SN with initial brightness around r=17 mag
If possible execute at same orientation as visit 1

On Hold Comments: Waiting for a suitable supernova to explode.

Fixed Targets

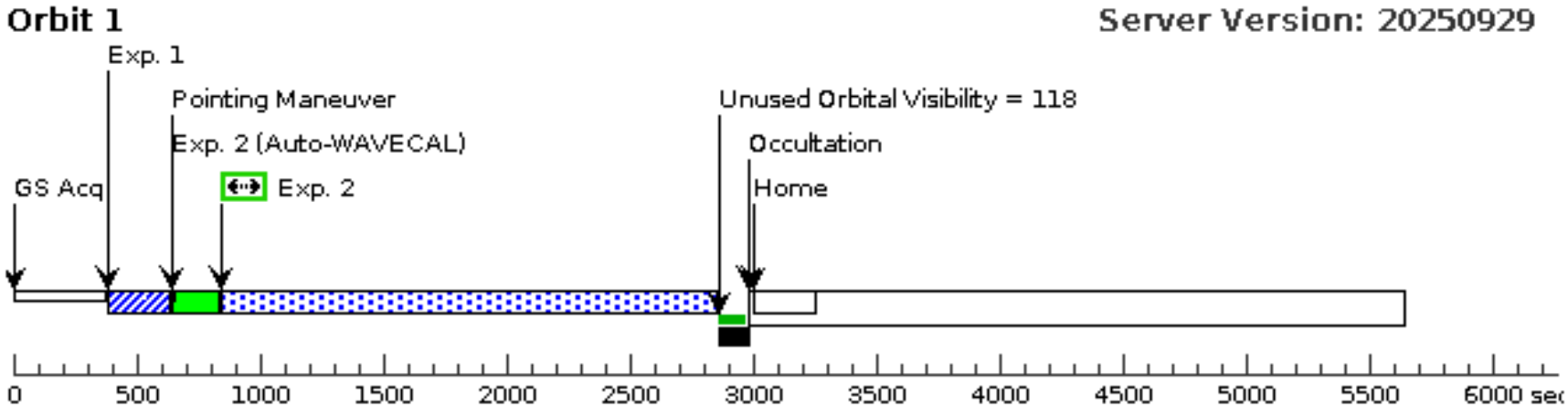
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SN2026AYT	RA: 09 27 23.3900 (141.8474583d) Dec: -32 00 30.88 (-32.00858d) Equinox: J2000	Epoch of Position: 2000	V=17	Reference Frame: ICRS

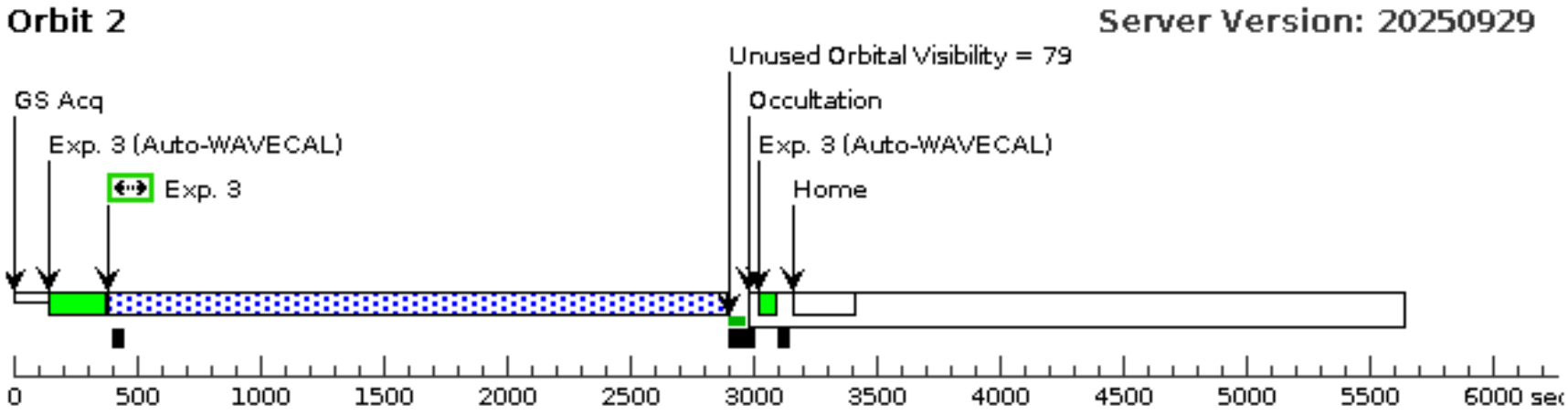
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[SUPERNOVA TYPE II]
Extended=NO

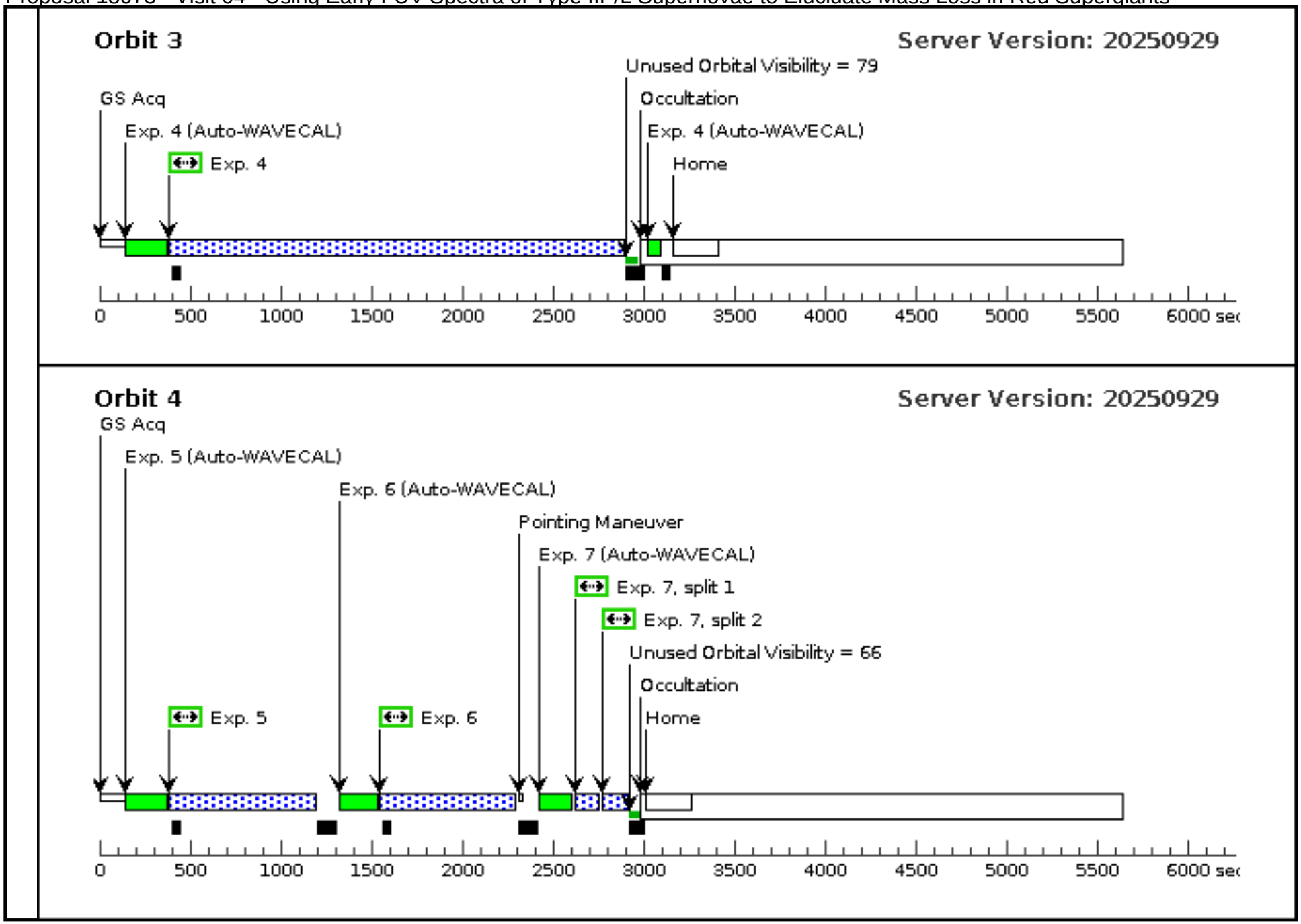
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	TA (STIS.ta.2026920)	(1) SN2026AYT	STIS/CCD, ACQ, F28X50LP	MIRROR				5 Secs (5 Secs) *[==>]*	***[1]***
2	G140L (STIS.sp.2026914)	(1) SN2026AYT	STIS/FUV-MAMA, ACCUM, 52X0.2	G140L 1425 A				2000 Secs (2000 Secs) *[==>]*	***[1]***
3	G140L (STIS.sp.2026914)	(1) SN2026AYT	STIS/FUV-MAMA, ACCUM, 52X0.2	G140L 1425 A		NEW OBSET FULL ACQ		2500 Secs (2500 Secs) *[==>]*	***[2]***
4	G140L (STIS.sp.2026914)	(1) SN2026AYT	STIS/FUV-MAMA, ACCUM, 52X0.2	G140L 1425 A		NEW OBSET FULL ACQ		2500 Secs (2500 Secs) *[==>]*	***[3]***
5	G140L (STIS.sp.2026914)	(1) SN2026AYT	STIS/FUV-MAMA, ACCUM, 52X0.2	G140L 1425 A		NEW OBSET FULL ACQ		800 Secs (800 Secs) *[==>]*	***[4]***
6	G230L (STIS.sp.2026913)	(1) SN2026AYT	STIS/NUV-MAMA, ACCUM, 52X0.2	G230L 2376 A				740 Secs (740 Secs) *[==>]*	***[4]***
7	G430L (STIS.sp.2026919)	(1) SN2026AYT	STIS/CCD, ACCUM, 52X0.2E1	G430L 4300 A				200 Secs (200 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	***[4]***

Orbit Structure






Orbit 3
Server Version: 20250929
Unused Orbital Visibility = 79
GS Acq
Occultation
Exp. 4 (Auto-WAVECAL)
Exp. 4 (Auto-WAVECAL)
Exp. 4
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec
Orbit 4
Server Version: 20250929
GS Acq
Exp. 5 (Auto-WAVECAL)
Exp. 6 (Auto-WAVECAL)
Pointing Maneuver
Exp. 7 (Auto-WAVECAL)
Exp. 7, split 1
Exp. 7, split 2
Unused Orbital Visibility = 66
Occultation
Exp. 5
Exp. 6
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 18073, Visit 4a (13), failed Thu Mar 05 20:00:29 GMT 2026

Diagnostic Status: No Diagnostics

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

Special Requirements: AFTER 11 BY 6 D TO 8 D

Comments: Please put a full GS acq at the beginning of each orbit so if one orbit fails the others have a chance of succeeding. I can adjust the exposure times if needed

fourth epoch should be executed 7 days after third visit
For SN with initial brightness around r=17 mag
If possible execute at same orientation as visit 1

Fixed Targets

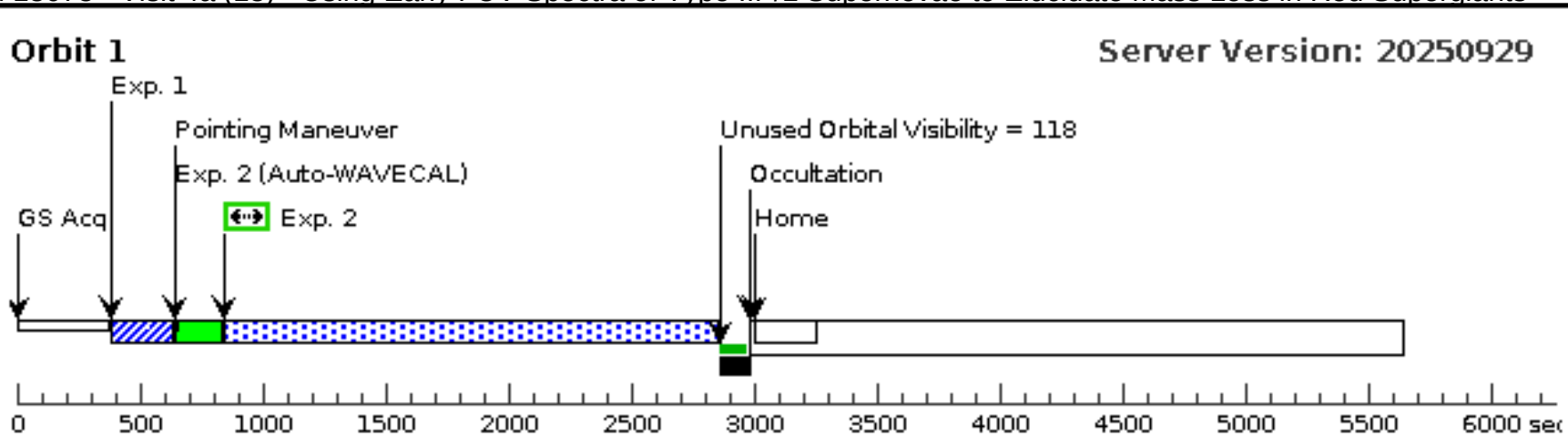
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SN2026AYT	RA: 09 27 23.3900 (141.8474583d) Dec: -32 00 30.88 (-32.00858d) Equinox: J2000	Epoch of Position: 2000	V=17	Reference Frame: ICRS

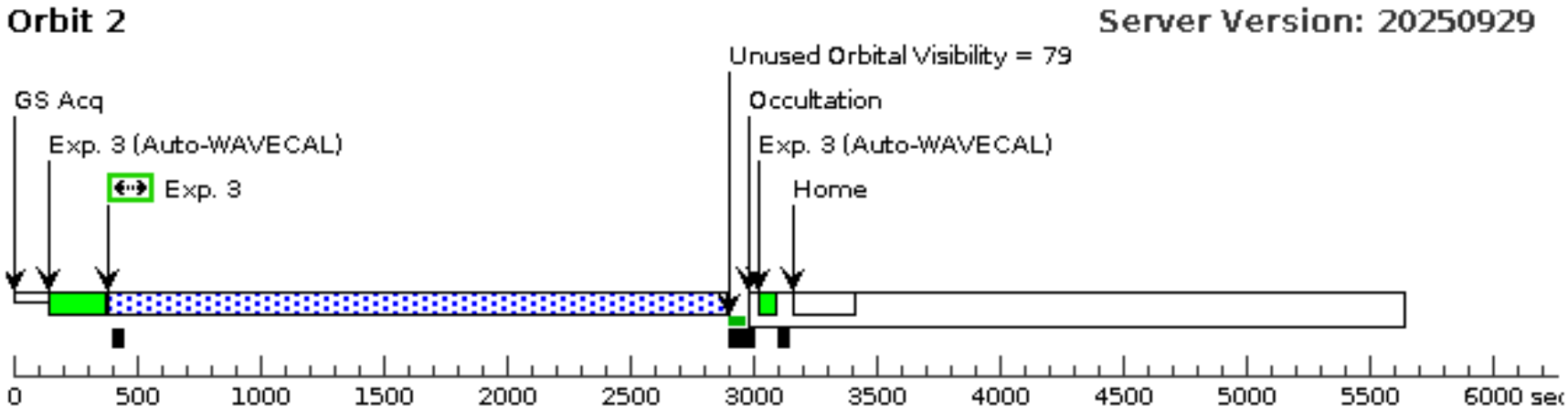
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[SUPERNOVA TYPE II]
Extended=NO

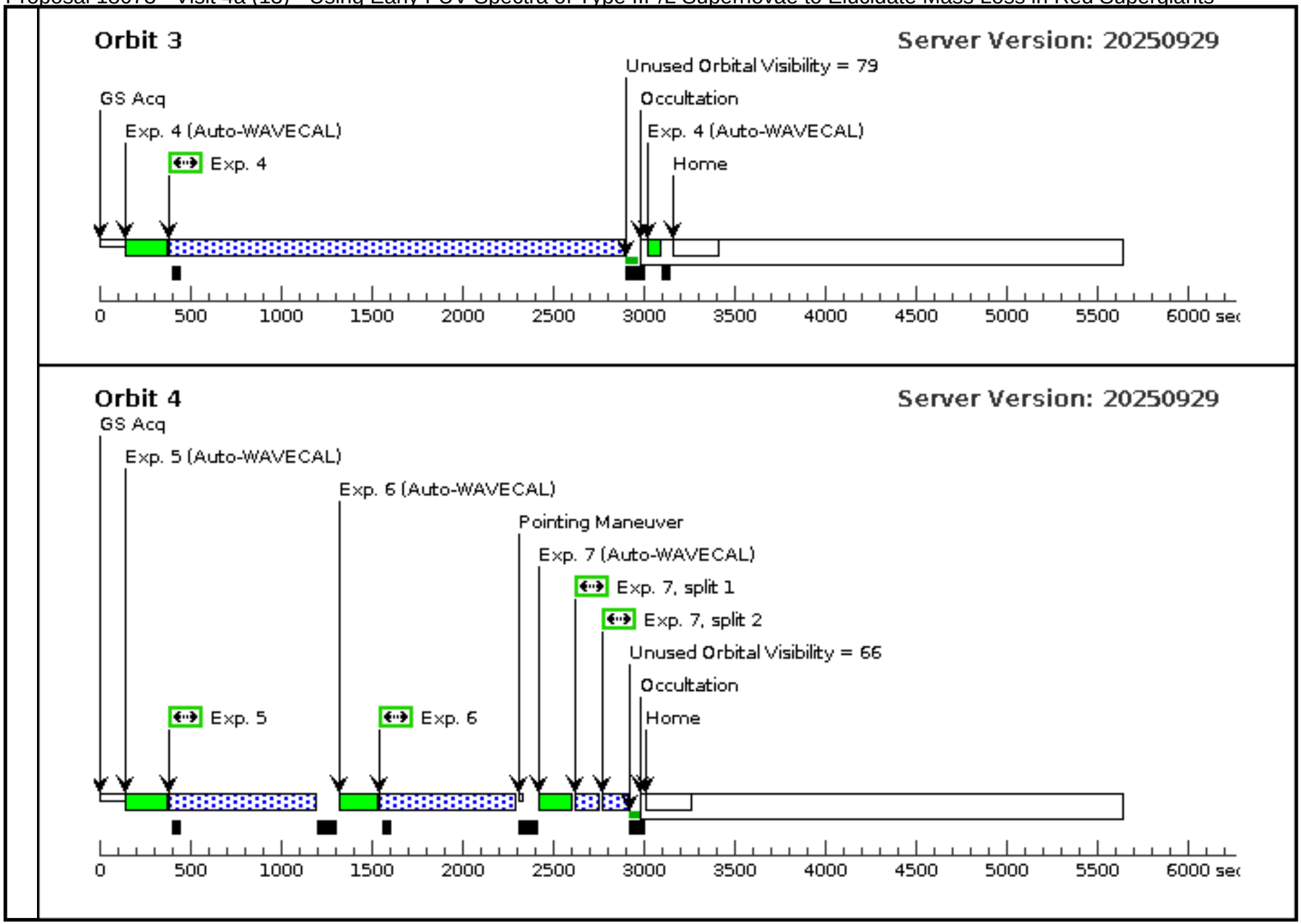
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	TA (STIS.ta.2026920)	(1) SN2026AYT	STIS/CCD, ACQ, F28X50LP	MIRROR				5 Secs (5 Secs) *[==>]*	***[1]***
2	G140L (STIS.sp.2026914)	(1) SN2026AYT	STIS/FUV-MAMA, ACCUM, 52X0.2	G140L 1425 A				2000 Secs (2000 Secs) *[==>]*	***[1]***
3	G140L (STIS.sp.2026914)	(1) SN2026AYT	STIS/FUV-MAMA, ACCUM, 52X0.2	G140L 1425 A		NEW OBSET FULL ACQ		2500 Secs (2500 Secs) *[==>]*	***[2]***
4	G140L (STIS.sp.2026914)	(1) SN2026AYT	STIS/FUV-MAMA, ACCUM, 52X0.2	G140L 1425 A		NEW OBSET FULL ACQ		2500 Secs (2500 Secs) *[==>]*	***[3]***
5	G140L (STIS.sp.2026914)	(1) SN2026AYT	STIS/FUV-MAMA, ACCUM, 52X0.2	G140L 1425 A		NEW OBSET FULL ACQ		800 Secs (800 Secs) *[==>]*	***[4]***
6	G230L (STIS.sp.2026913)	(1) SN2026AYT	STIS/NUV-MAMA, ACCUM, 52X0.2	G230L 2376 A				740 Secs (740 Secs) *[==>]*	***[4]***
7	G430L (STIS.sp.2026919)	(1) SN2026AYT	STIS/CCD, ACCUM, 52X0.2E1	G430L 4300 A				200 Secs (200 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	***[4]***

Orbit Structure






Orbit 3
Server Version: 20250929
Unused Orbital Visibility = 79
GS Acq
Occultation
Exp. 4 (Auto-WAVECAL)
Exp. 4 (Auto-WAVECAL)
Exp. 4
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec
Orbit 4
Server Version: 20250929
GS Acq
Exp. 5 (Auto-WAVECAL)
Exp. 6 (Auto-WAVECAL)
Pointing Maneuver
Exp. 7 (Auto-WAVECAL)
Exp. 7, split 1
Exp. 7, split 2
Unused Orbital Visibility = 66
Occultation
Exp. 5
Exp. 6
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 18073, Visit 4 NUV only (14), implementation Thu Mar 05 20:00:29 GMT 2026

Diagnostic Status: Warning

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

Special Requirements: VISIBILITY INTERVAL 43 M

Comments: NUV only visit if this cannot be scheduled until later

Diagnostics

(Visit 4 NUV only (14)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 4 NUV only (14)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 4 NUV only (14)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

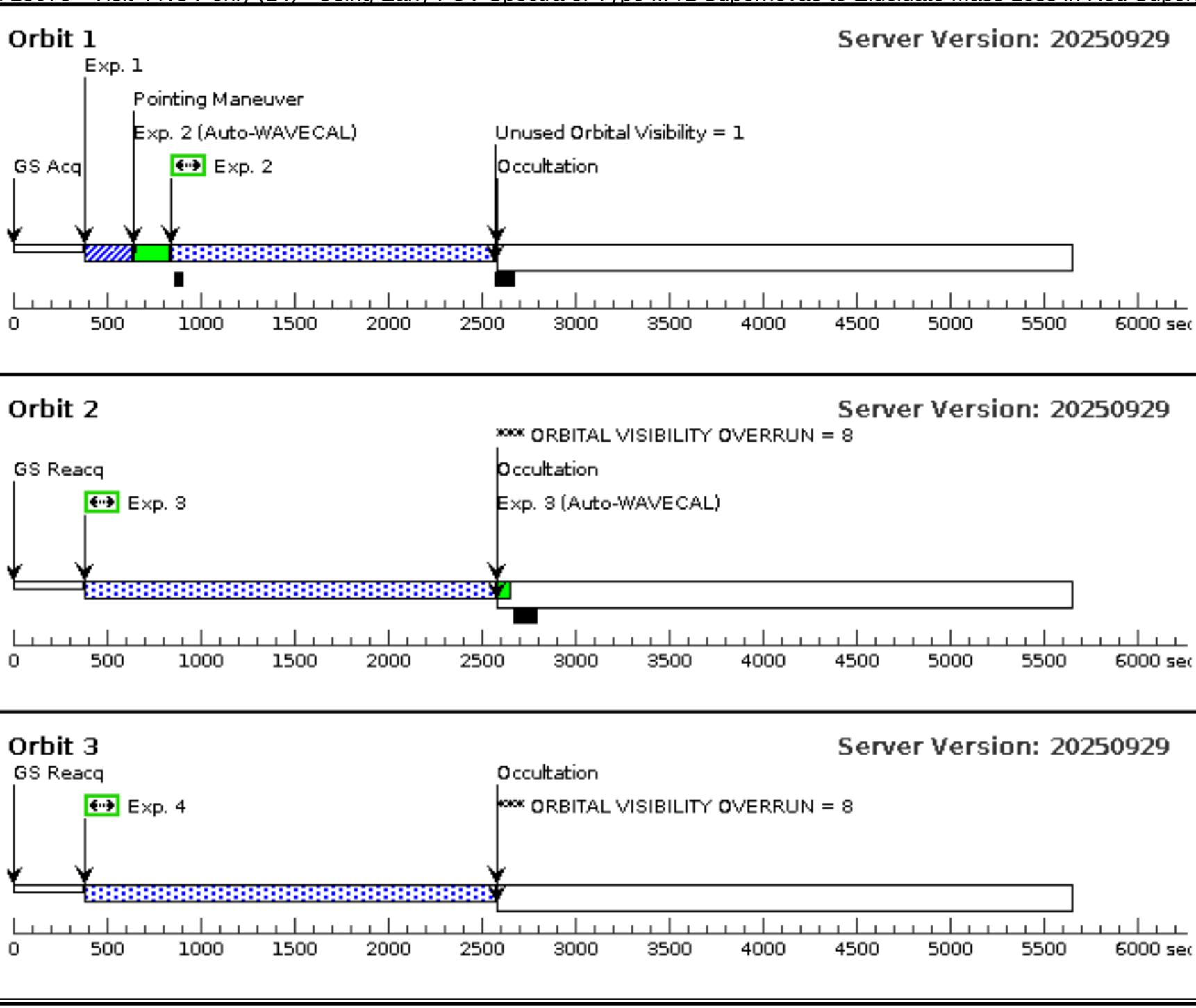
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SN2026AYT	RA: 09 27 23.3900 (141.8474583d) Dec: -32 00 30.88 (-32.00858d) Equinox: J2000	Epoch of Position: 2000	V=17	Reference Frame: ICRS

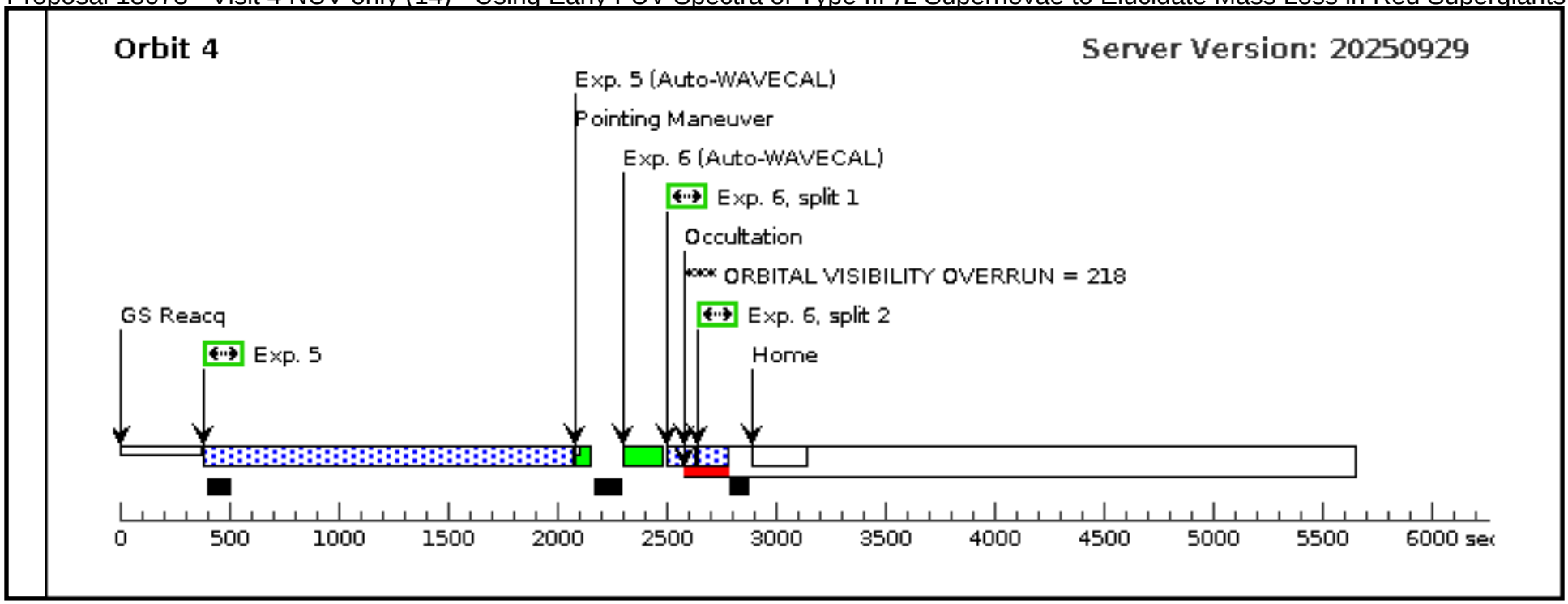
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[SUPERNOVA TYPE II]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	TA (STIS.ta.2026920)	(1) SN2026AYT	STIS/CCD, ACQ, F28X50LP	MIRROR				5 Secs (5 Secs) *[==>]*	***[1]***
2	G230L (STIS.sp.2026914)	(1) SN2026AYT	STIS/NUV-MAMA, ACCUM, 52X0.2	G230L 2376 A				1710 Secs (1710 Secs) *[==>]*	***[1]***
3	G230L (STIS.sp.2026914)	(1) SN2026AYT	STIS/NUV-MAMA, ACCUM, 52X0.2	G230L 2376 A				2180 Secs (2180 Secs) *[==>]*	***[2]***
4	G230L (STIS.sp.2026914)	(1) SN2026AYT	STIS/NUV-MAMA, ACCUM, 52X0.2	G230L 2376 A				2180 Secs (2180 Secs) *[==>]*	***[3]***
5	G230L (STIS.sp.2026913)	(1) SN2026AYT	STIS/NUV-MAMA, ACCUM, 52X0.2	G230L 2376 A				1680 Secs (1680 Secs) *[==>]*	***[4]***
6	G430L (STIS.sp.2026919)	(1) SN2026AYT	STIS/CCD, ACCUM, 52X0.2E1	G430L 4300 A				200 Secs (200 Secs) *[==>(Split 1)]* *[==>(Split 2)]*	***[4]***

Orbit Structure




Orbit 4
Server Version: 20250929
Exp. 5 (Auto-WAVECAL)
Pointing Maneuver
Exp. 6 (Auto-WAVECAL)
Exp. 6, split 1
Occultation
*** ORBITAL VISIBILITY OVERRUN = 218
Exp. 6, split 2
GS Reacq
Exp. 5
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec