



PreviSat

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December 2024

Software presentation

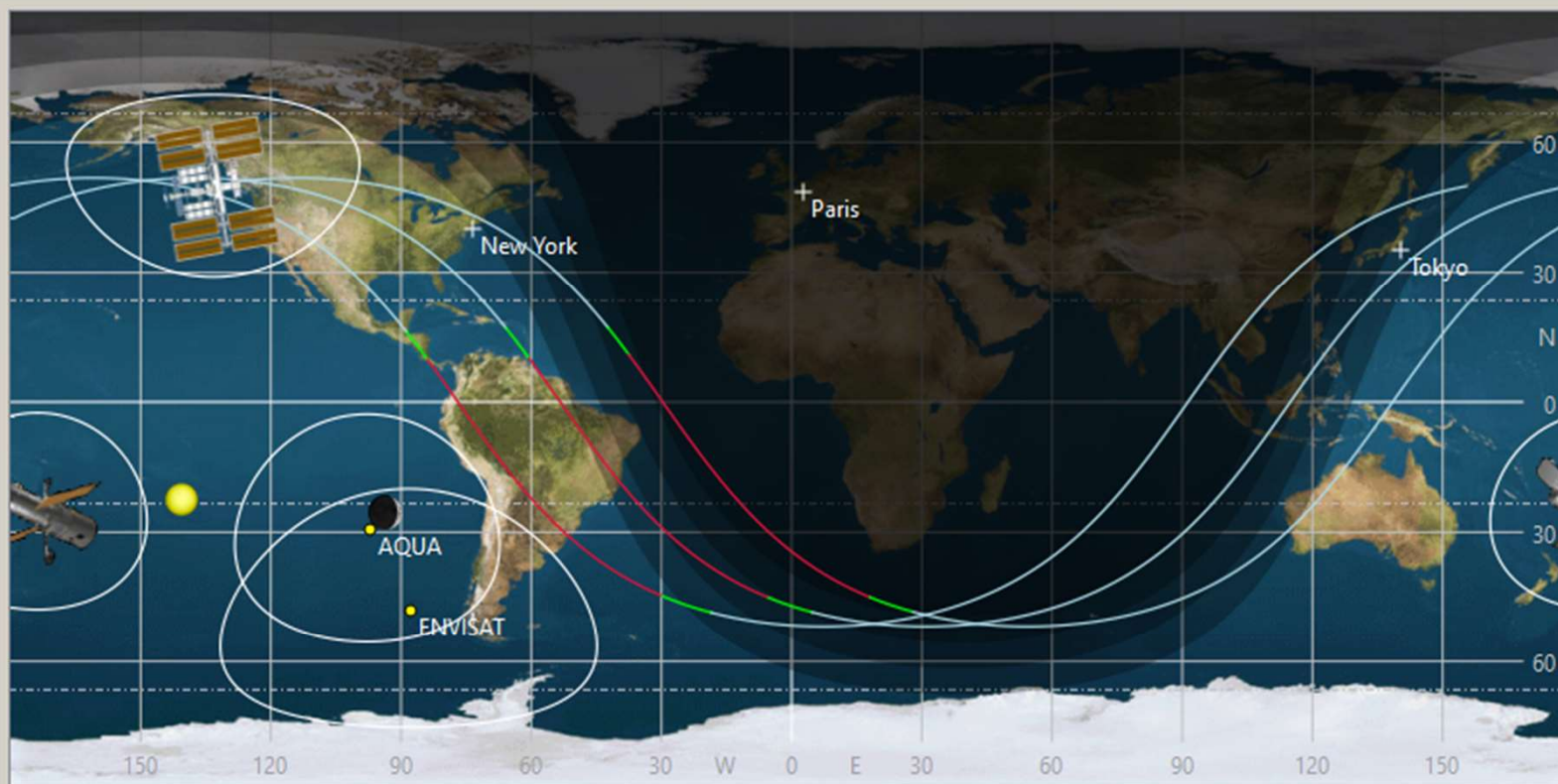
- Tracking of artificial satellites (SGP4 model)
- World map / sky map
- Different calculations of predictions
- ISS Live and visualization of NASA Wall Command Center
- Informations about the satellites
- Cross-platform (Windows, Linux...)

History

- Project initiated in September 2005
- Versions 1.x : Visual Basic 6 (2005-2006)
- Versions 2.x : Visual Basic .NET (2008-2011)
- Versions 3.x and over : C++/Qt (since 2011)
- Today : - version 7.0 (released in December 2024)

Main features

- Position of the satellites in different frames
- Osculating elements
- Prediction of passes
- Transits in front of the Moon and the Sun
- Flares of some satellites
- Prediction of Starlink passes
- Tracking with a Sky-Watcher mount
- Antenna tracking for radio satellites



Mode

☒ Real time 5 seconds

☐ Manual mode

☐ ISS Live

File: Visual

Filter

- ☒ ISS
- ☐ KORONAS-FOTON
- ☐ METEOR PRIRODA
- ☐ MIDORI II (ADEOS-II)
- ☐ OAO 2
- ☐ OAO 3 (COPERNICUS)
- ☐ OKEAN-3
- ☐ OKEAN-O
- ☐ ORBVUE 2 (SEASTAR)
- ☐ RESURS-DK 1
- ☐ SAOCOM 1A
- ☐ SAOCOM 1B

Main Osculating elements Satellite information Predictions Telescope Antenna

Date: Wednesday, December 04 2024 22:13:55 UTC + 01:00

Name of location: Paris Conditions: Night

Longitude: 002° 20' 55" East Latitude: 48° 51' 12" North Altitude: 30 m

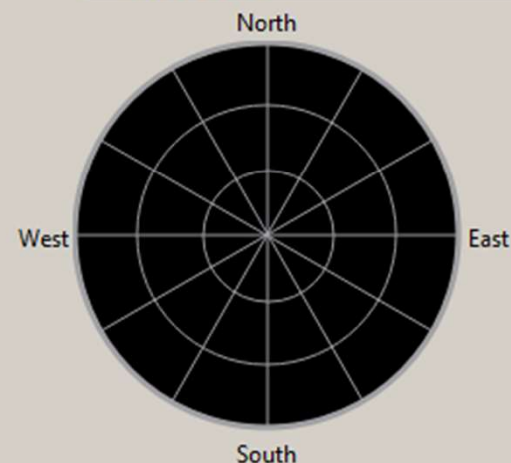
Name: ISS Time elapsed since epoch: 0.12 days

Longitude: 133° 19' 21" West Elevation: -34° 36' 24" Right ascension: 15h 50m 36s
 Latitude: 49° 59' 01" North Azimuth (N): 332° 08' 44" Declination: +02° 55' 54"
 Altitude: 425.1 km Range: 7963.5 km Constellation: Serpent

Direction: Ascending Orbit #148502 Satellite not eclipsed (35%)
 Orbital velocity: 7.661 km/s Next D>N: 2024-12-04 22:36:55 (in 23min 00s). Beta: -061° 17'
 Range rate: -4.014 km/s Next AOS: 2024-12-05 10:26:20 (in 12h 12min). Azimuth: 195° 08'

Sun coordinates:

Elevation: -50° 42' 14"
 Azimuth (N): 298° 59' 08"
 Range: 0.985 AU
 Right ascension: 16h 47m 14s
 Declination: -22° 23' 04"
 Constellation: Ophiuchus
 Longitude: 140° 50' 30" West
 Latitude: 22° 22' 59" South
 Apparent diam: 32' 28"



Azimuth: 336.28°

Elevation: 25.76°

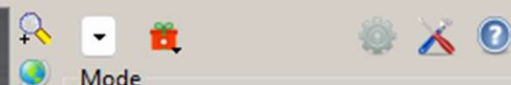
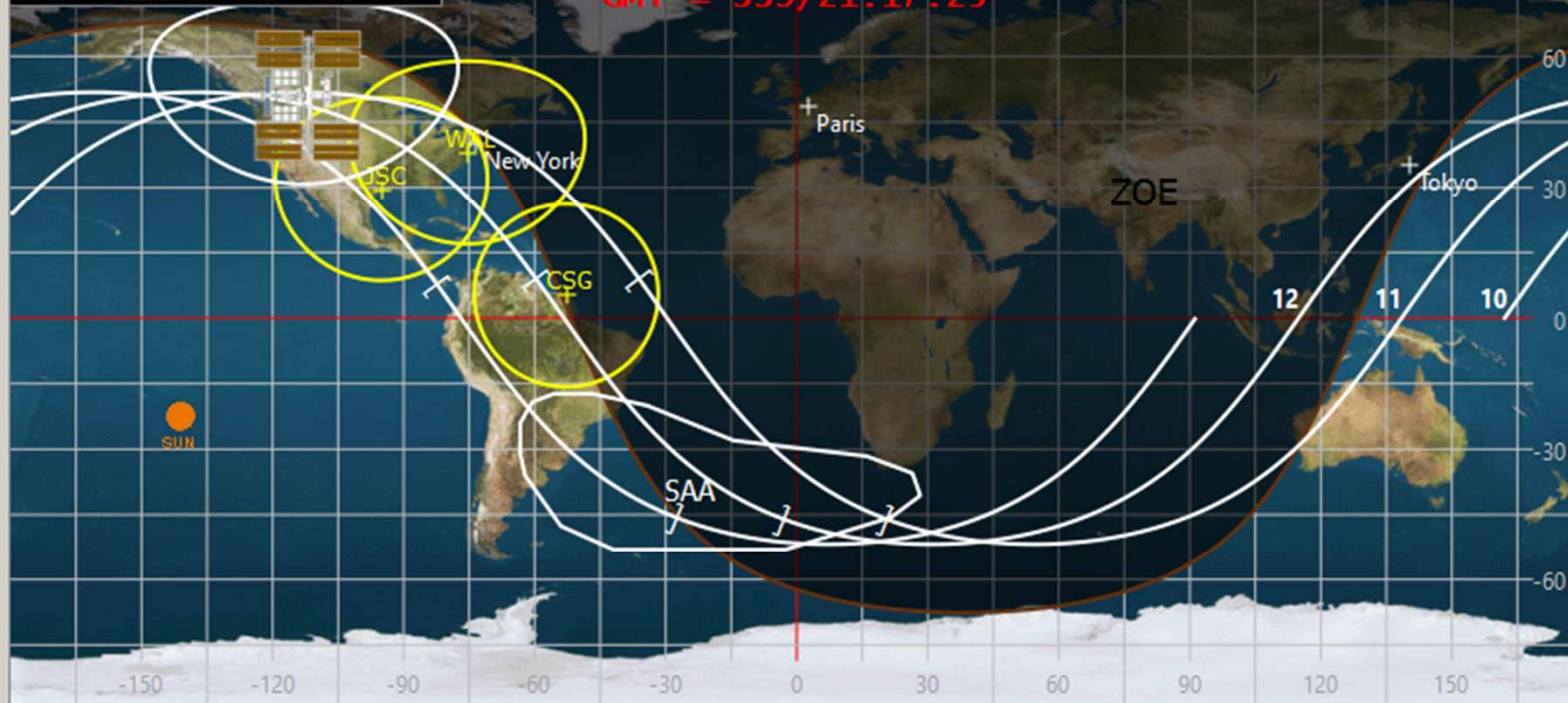
Real time

12/04/2024

22:13:56

LAT = 51.8 INC = 51.6
 ALT = 230.1 D/N : 0:19:30
 LON = -112.9 ORB = 10

GMT = 339/21:17:25



Mode

☒ Real time 5 seconds

☐ Manual mode

☒ ISS Live

NASA



File: Visual

Filter

- ☒ ISS
- ☐ KORONAS-FOTON
- ☐ METEOR PRIRODA
- ☐ MIDORI II (ADEOS-II)
- ☐ OAO 2
- ☐ OAO 3 (COPERNICUS)
- ☐ OKEAN-3
- ☐ OKEAN-O
- ☐ ORBVIEW 2 (SEASTAR)
- ☐ RESURS-DK 1
- ☐ SAOCOM 1A
- ☐ SAOCOM 1B

Main Osculating elements Satellite information Predictions Telescope Antenna

Date: Wednesday, December 04 2024 22:17:25 UTC + 01:00

Name of location: Paris Conditions: Night

Longitude: 002° 20' 55" East Latitude: 48° 51' 12" North Altitude: 30 m

Name: ISS Time elapsed since epoch: 0.13 days

Longitude: 112° 52' 45" West Elevation: -29° 45' 28" Right ascension: 16h 33m 16s

Latitude: 51° 47' 25" North Azimuth (N): 321° 58' 10" Declination: +04° 22' 10"

Altitude: 426.2 km Range: 7132.5 km Constellation: Hercules

Direction: Descending Orbit #148502 Satellite not eclipsed (40%)

Orbital velocity: 7.660 km/s Next D>N: 2024-12-04 22:36:55 (in 19min 30s). Beta: -061° 18'

Range rate: -3.857 km/s Next AOS: 2024-12-05 10:26:20 (in 12h 08min). Azimuth: 195° 08'

Sun coordinates:

Elevation: -51° 12' 19"

Azimuth (N): 299° 59' 36"

Range: 0.985 AU

Right ascension: 16h 47m 15s

Declination: -22° 23' 05"

Constellation: Ophiuchus

Longitude: 141° 42' 59" West

Latitude: 22° 23' 00" South

Apparent diam: 32' 28"



Click here to activate
the video stream

Real time

12/04/2024

22:17:29

Osculating elements Tab

Main

Osculating elements

Satellite information

Transits

Telescope

Antenna

Date : Wednesday, December 04 2024 23:37:06 UTC + 01:00

Name : [ISS](#)

State vector	ECI	Osculating elements	Equatorial parameters	Miscellaneous
x : -4723.854 km		Semi-major axis : 6795.8 km	lx : -0.4773263	Doppler @ 100MHz : +855 Hz
y : -3506.599 km		Eccentricity : 0.0007552	ly : -0.0793446	Free-space loss : 152.49 dB
z : +3392.194 km		Longitude of perigee : 249.2145°	Mean anomaly : 339.8222°	Delay : 33.51 ms
vx : +5.418504 km/s		True anomaly : 339.7923°	Apogee (Altitude) : 6801.0 km (422.8 km)	Phasing : [15; 1; 2] 31
vy : -2.815021 km/s		Eccentric anomaly : 339.8072°	Perigee (Altitude) : 6790.7 km (412.6 km)	
vz : +4.631664 km/s		Field of view : ±20.21°	Orbital period : 1h 32m 44s	

Satellite information Tab

Main Osculating elements Satellite information Predictions Telescope Antenna

Name : [ISS \(ZARYA\)](#) ◀ ▶

NORAD number : 025544

COSPAR designation : 1998-067A

Epoch (UTC) : 2024-12-13 12:29:45

Pseudo-ballistic coeff : 0.00031874

Inclination : 51.6382°

RA of ascending node : 146.8875°

Eccentricity : 0.0007514

Argument of perigee : 337.6659°

Mean anomaly : 92.2067°

Mean motion : 15.50554971 rev/day

$n' / 2$: 0.00018151 rev/day²

$n'' / 6$: 0.00000000 rev/day³

Orbit # at epoch : 148636

Dry/total mass : 19000/20351 kg

Std/Max magnitude : +0.00v/-1.9

Propagation model : SGP4 (NE)

Shape/Dimensions : Cyl + 2 Pan. 12.6 x 4.2 x 23.9 m

Class/Category/Discipline : C / SS / -

Launch date : 1998-11-20 06:40:00

Orbital category : LEO/I

Country/Organization : ISS

Launch site : TTMR

Data search Tab

Main Osculating elements **Data search** Predictions Telescope Antenna

Name: ISS (ZARYA) NORAD: 25544 COSPAR: 1998-067A

Found objects:

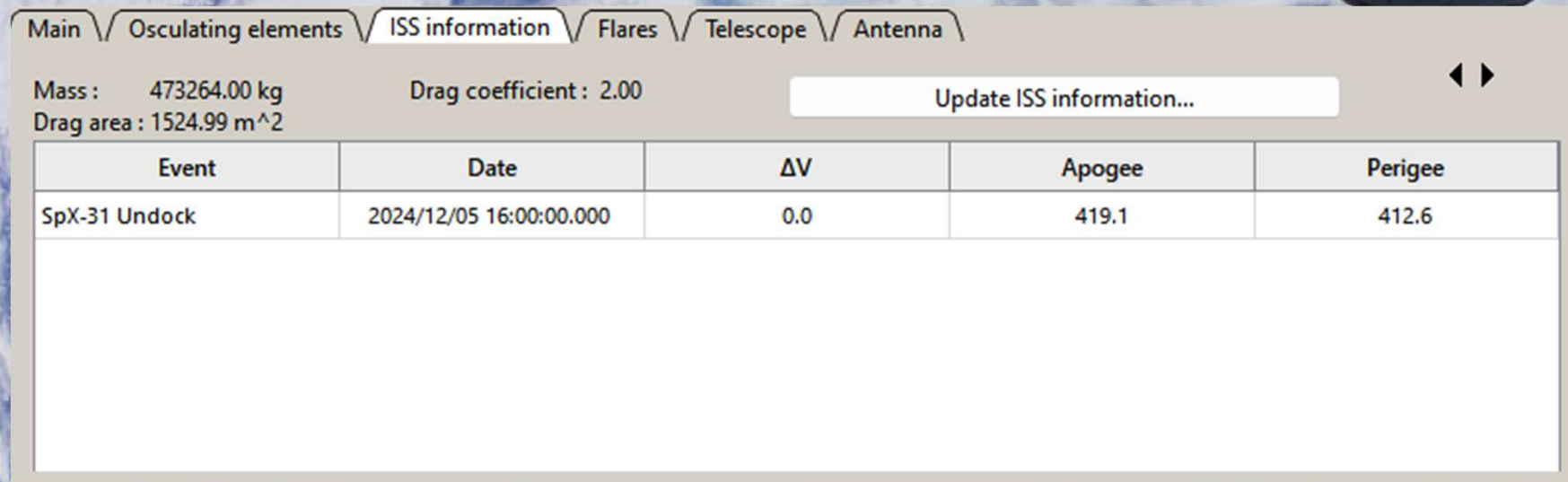
- ISS (ZARYA)

Name: ISS (ZARYA)	Std/Max magnitude : +0.00v/-1.9
NORAD number : 25544	Propagation model : SGP4 (NE)
COSPAR designation : 1998-067A	Shape/Dimensions : Cyl + 2 Pan. 12.6 x 4.2 x 23.9 m
Launch date : 1998-11-20 06:40:00	Classe/Catégorie/Discipline : C / SS / -
Orbital category : LEO/I	Dry/total mass : 19000/20351 kg
Country/Organization : ISS	Apogee (Altitude) : 6798 km (420 km)
Launch site : TTMTR	Perigee (Altitude) : 6788 km (410 km)
	Orbital period : 1h 32m 52s
	Inclination : 51.64°

Files: active.xml

ISS information Tab

- The only software to give information about ISS



The screenshot shows a software interface with a navigation bar at the top containing tabs: Main, Osculating elements, ISS information (selected), Flares, Telescope, and Antenna. Below the tabs, the ISS information is displayed, including Mass (473264.00 kg), Drag area (1524.99 m²), and Drag coefficient (2.00). There is a button labeled 'Update ISS information...' and a double arrow icon. Below this, a table lists events with columns for Event, Date, ΔV, Apogee, and Perigee. The table contains one row for 'SpX-31 Undock' with a date of 2024/12/05 16:00:00.000, ΔV of 0.0, Apogee of 419.1, and Perigee of 412.6.

Main	Osculating elements	ISS information	Flares	Telescope	Antenna
Mass : 473264.00 kg		Drag coefficient : 2.00		Update ISS information...	
Drag area : 1524.99 m ²					
Event	Date	ΔV	Apogee	Perigee	
SpX-31 Undock	2024/12/05 16:00:00.000	0.0	419.1	412.6	

Launches Tab

Main Osculating elements Launches Flares Telescope Antenna				
Update launch information... ◀ ▶				
Date	Hour	Launch	Site	Details
December 3/4	Window opens at 4:29 p.m. PST	Falcon 9 • Starlink 9-14	SLC-4E	A SpaceX Falcon ...
December 4	Window opens at 3:29 a.m. EST	Falcon 9 • Starlink 6-70	SLC-40	A SpaceX Falcon ...
December 4	4:08 p.m. IST	PSLV-XL • Proba-3	Satish Dhawan Space Centre	A PSLV-XL rocket f...
NET December 4	6:20 p.m. GFT	Vega-C • Sentinel-1C	Europe's Spaceport	Marking its retur...
December 5	Window opens 11:10 a.m. -12:40 p.m. EST	Falcon 9 • SiriusXM-9	LC-39A	A SpaceX Falcon ...
TBD	TBD	New Glenn • NG-1	Launch Complex 36	A Blue Origin Ne...

Decays Tab

Main

Osculating elements

Decays

Flares

Telescope

Antenna

Update decay information...

◀ ▶

Name	Norad	COSPAR	Decay date	Size	Country	Type of message
STARLINK-1923	46754	2020-074R	2024-12-02 08:41:00	LARGE	US	Prediction
SL-8 DEB	11587	1978-007C	2024-12-02 00:00:00	SMALL	CIS	Prediction
COSMOS 1823 DEB	18733	1987-020L	2024-12-02 00:00:00	SMALL	CIS	Prediction
EXOS D (AKEBONO)	19822	1989-016A	2024-12-02 00:00:00	LARGE	JPN	Prediction
SL-16 DEB	22468	1992-093FH	2024-12-02 00:00:00	SMALL	CIS	Prediction
FENGYUN 1C DEB	30423	1999-025AEN	2024-12-02 00:00:00	SMALL	PRC	Prediction

Prediction Tab

Main / Osculating elements / Decays / **Predictions** / Telescope / Antenna

Start date : 12/02/2024 17:46:00 Erase hours

End date : 12/09/2024 17:46:00

Output step : 1 minute

Name of location : Paris

Sun elevation : Civil twilight (-6°)

Minimum elevation of satellite : 0°

Ages of orbital elements : [0.73 2.21] days

☒ Illumination required

☐ Maximum magnitude

Filter

- ☒ ISS
- ☐ KORONAS-FOTON
- ☐ METEOR PRIRODA
- ☐ MIDORI II (ADEOS-II)
- ☐ OAO 2
- ☐ OAO 3 (COPERNICUS)
- ☐ OKEAN-3
- ☐ OKEAN-O
- ☐ ORBVIEW 2 (SEASTAR)

Default settings Update orbital elements... Run

Prediction results

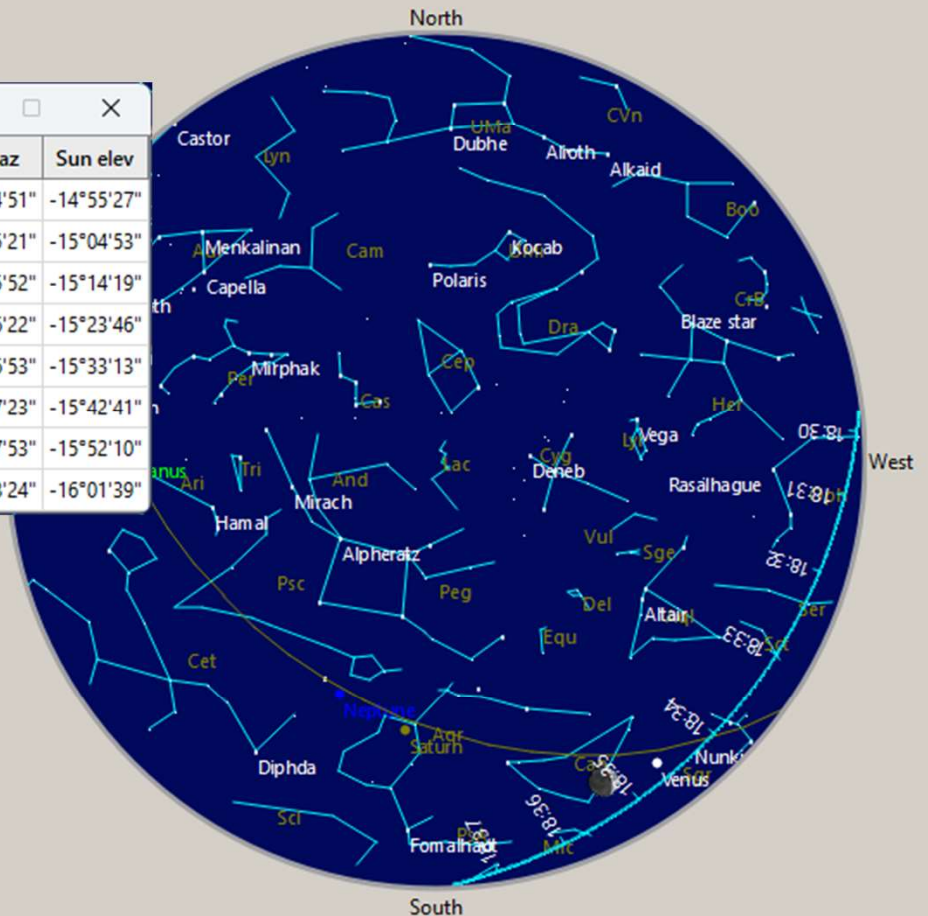
Predictions of passes

Save Save text file

Satellite	Start date	End date	Max elevation	Magnitude	Sun elevation
ENVISAT	2024/12/08 07:03:00	2024/12/08 07:03:00	00°32'23"	+15.6*	-13°44'19"

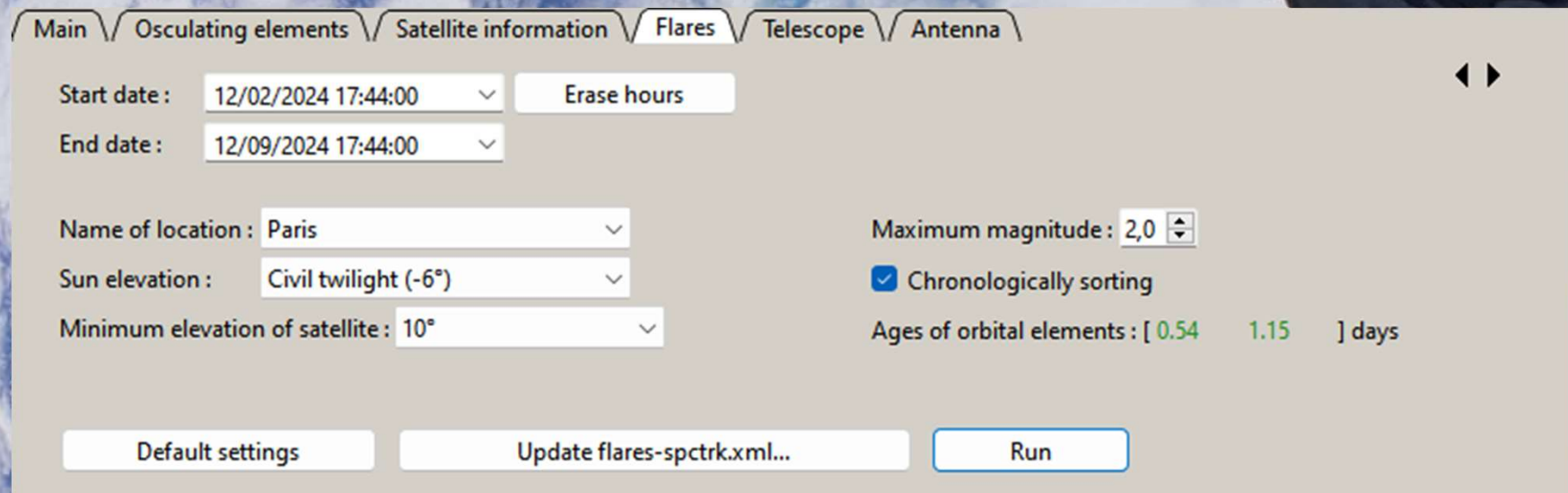
Pass details

Satellite	Date	Sat azimuth	Sat elevation	Sat RA	Sat Decl	Const	Magn	Altitude	Range	Sun az	Sun elev
ISS	2024/12/05 18:30:00	273°57'48"	00°42'16"	16h29m20s	+03°08'15"	Oph	+10.1	425.4	2341.7	252°44'51"	-14°55'27"
ISS	2024/12/05 18:31:00	265°09'34"	03°02'56"	17h03m01s	-00°52'55"	Oph	+5.8	425.1	2076.1	252°55'21"	-15°04'53"
ISS	2024/12/05 18:32:00	254°00'39"	05°13'59"	17h43m40s	-06°25'11"	Oph	+4.1	424.7	1869.0	253°05'52"	-15°14'19"
ISS	2024/12/05 18:33:00	240°34'43"	06°44'14"	18h31m13s	-13°27'11"	Sct	+3.4	424.2	1742.2	253°16'22"	-15°23'46"
ISS	2024/12/05 18:34:00	225°50'21"	07°04'17"	19h24m14s	-21°14'10"	Sgr	+3.3	423.7	1714.2	253°26'53"	-15°33'13"
ISS	2024/12/05 18:35:00	211°31'20"	06°06'07"	20h19m19s	-28°32'00"	Sgr	+3.6	423.2	1789.7	253°37'23"	-15°42'41"
ISS	2024/12/05 18:36:00	199°05'25"	04°10'51"	21h12m16s	-34°25'11"	Mic	+4.7	422.7	1956.3	253°47'53"	-15°52'10"
ISS	2024/12/05 18:37:00	189°02'57"	01°50'37"	21h59m57s	-38°41'58"	Gru	+7.2	422.1	2192.6	253°58'24"	-16°01'39"
HST	2024/12/08 19:49:00	2024/12/08 19:50:00	00°54'29"	+12.2	-27°51'29"						
HST	2024/12/09 17:46:00	2024/12/09 17:50:00	02°05'12"	+10.1	-08°32'10"						
HST	2024/12/09 19:26:00	2024/12/09 19:28:00	00°42'23"	+12.9	-24°05'13"						
HST	2024/12/10 19:03:00	2024/12/10 19:05:00	00°29'41"	+13.7	-20°20'56"						
HST	2024/12/11 18:40:00	2024/12/11 18:42:00	00°16'22"	+14.8	-16°39'51"						
ISS	2024/12/05 18:30:00	2024/12/05 18:37:00	07°04'17"	+3.3	-15°33'13"						
ISS	2024/12/06 17:41:00	2024/12/06 17:50:00	11°53'39"	+2.1	-08°03'13"						
ISS	2024/12/07 18:32:00	2024/12/07 18:33:00	00°21'05"	+11.4	-15°25'32"						
ISS	2024/12/08 17:41:00	2024/12/08 17:47:00	03°43'27"	+5.3	-07°56'13"						
ISS	2024/12/11 07:14:00	2024/12/11 07:19:00	03°11'12"	+5.7	-12°08'30"						



Flares Tab

- From 2005 to 2019 : calculation of Iridium flares
- Since 2015 : calculation of flares from satellites with reflective antennas/panels



The screenshot shows a software interface with a background image of Earth from space. The interface has a top navigation bar with tabs: Main, Osculating elements, Satellite information, Flares (selected), Telescope, and Antenna. Below the tabs, there are several input fields and buttons. On the right side of the interface, there are navigation arrows (left and right). At the bottom, there are three buttons: Default settings, Update flares-spctrk.xml..., and Run.

Main | Osculating elements | Satellite information | **Flares** | Telescope | Antenna

Start date : 12/02/2024 17:44:00 ▾ Erase hours

End date : 12/09/2024 17:44:00 ▾

Name of location : Paris ▾

Sun elevation : Civil twilight (-6°) ▾

Minimum elevation of satellite : 10° ▾

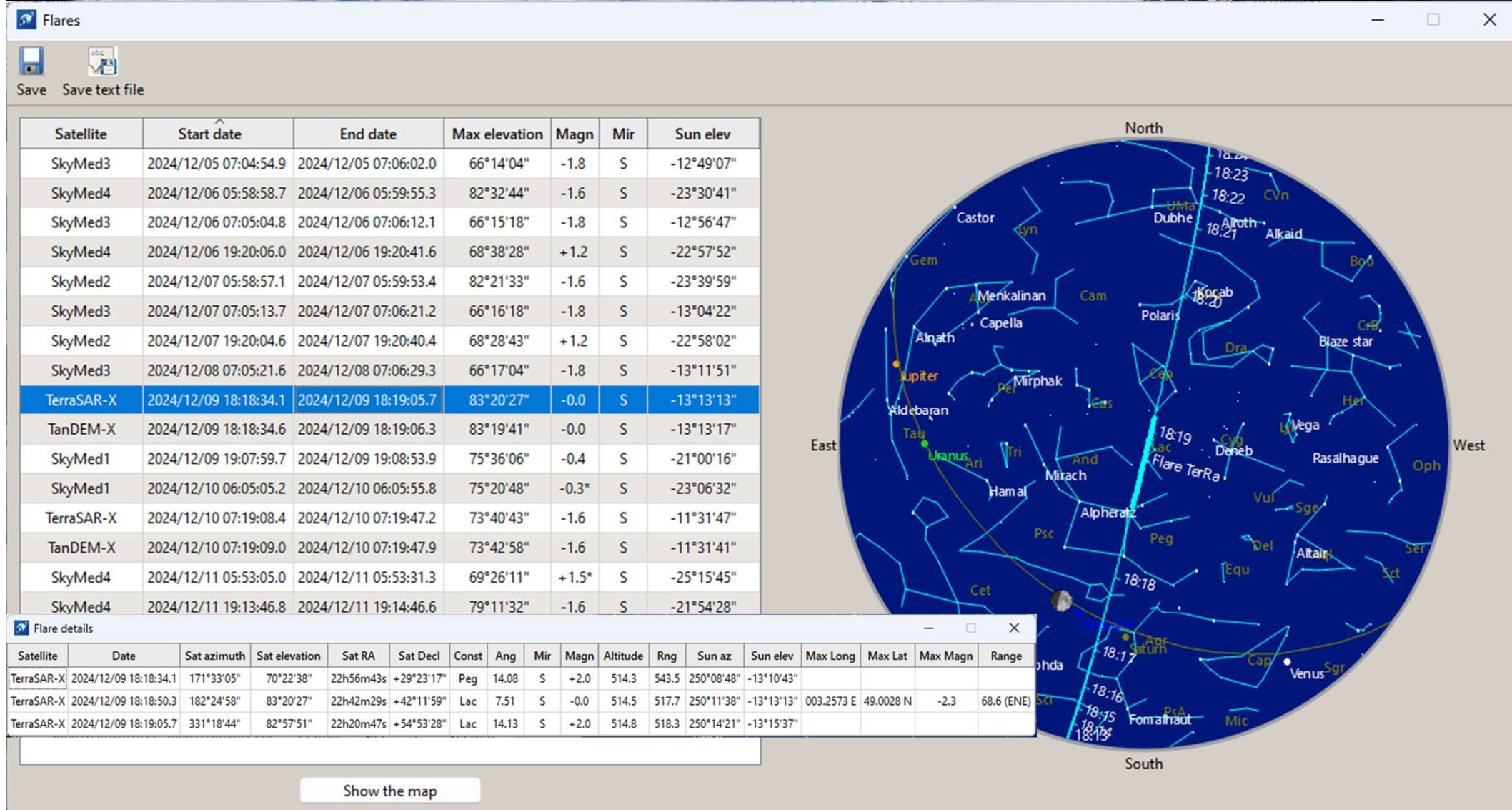
Maximum magnitude : 2,0 ▴ ▾

☒ Chronologically sorting

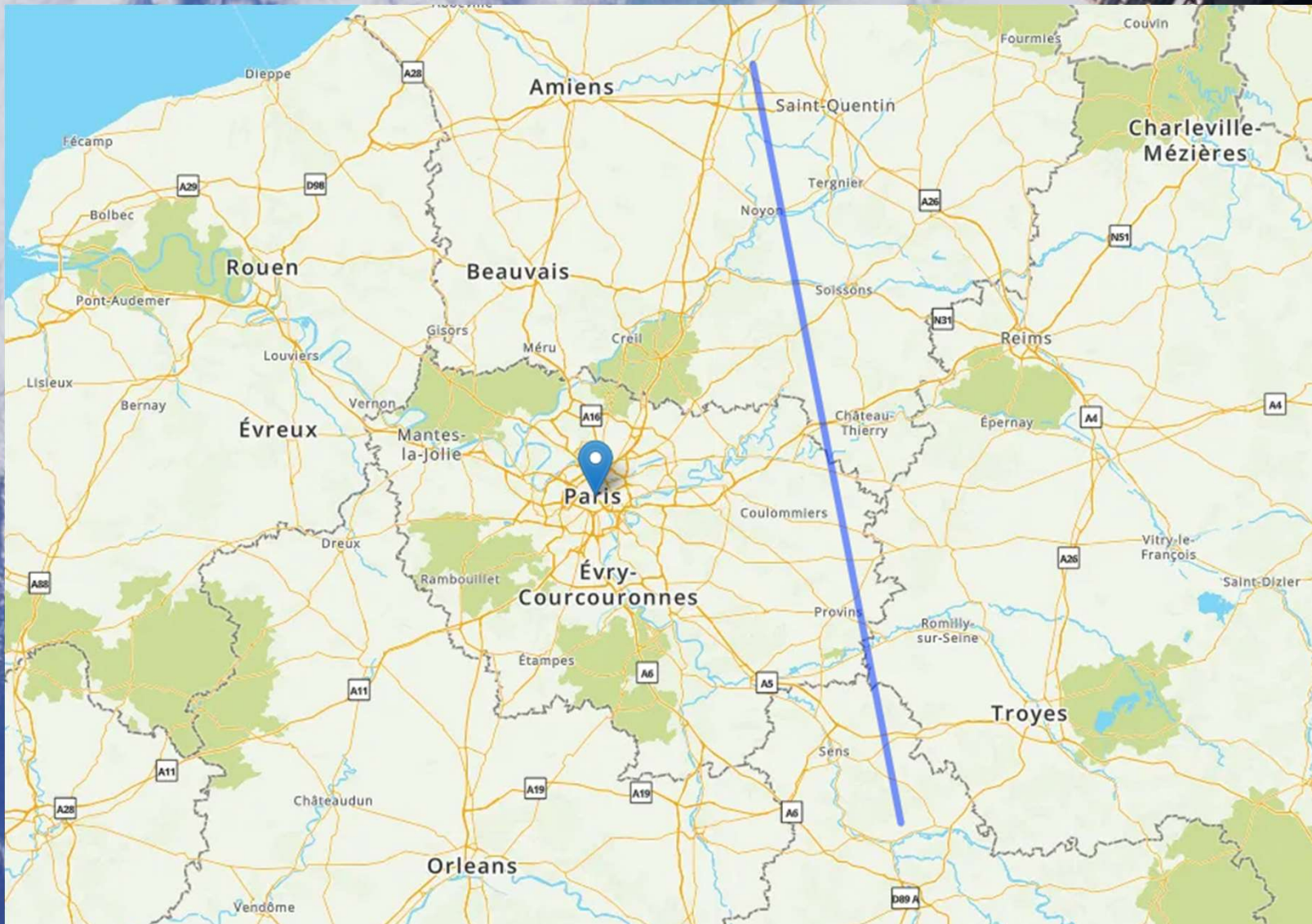
Ages of orbital elements : [0.54 1.15] days

Default settings | Update flares-spctrk.xml... | Run

Flares results



Flares results



Transits Tab

- Since 2010 : calculation of ISS transits only (the first software to make these predictions !)
- Since PreviSat 6.0 : calculation of transits for all satellites

The screenshot shows the 'Transits' tab of the PreviSat software. The interface includes several input fields and checkboxes for configuring transit calculations. The 'Start date' is set to 12/02/2024 17:52:00, and the 'End date' is 12/09/2024 17:52:00. The 'Name of location' is Paris. The 'Minimum elevation of satellite' is 5°, and the 'Maximum elongation with the body' is 5,0. The 'Body' section has checkboxes for Sun and Moon, both of which are checked. The 'Filter' section has checkboxes for AQUA, ENVISAT, HST, and ISS, with ISS checked. The 'Ages of orbital elements' are 0.74 and 2.21 days. The 'Run' button is highlighted.

Main | Osculating elements | Decays | **Transits** | Telescope | Antenna

Start date : 12/02/2024 17:52:00

End date : 12/09/2024 17:52:00

Name of location : Paris

Minimum elevation of satellite : 5°

Maximum elongation with the body : 5,0

☒ Include daytime lunar transits/conjunctions

Ages of orbital elements : [0.74 2.21] days

Body

☒ Sun

☒ Moon

Filter ☒

☐ AQUA

☐ ENVISAT

☐ HST

☒ ISS

Transits results

Transits

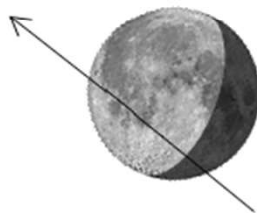


Save

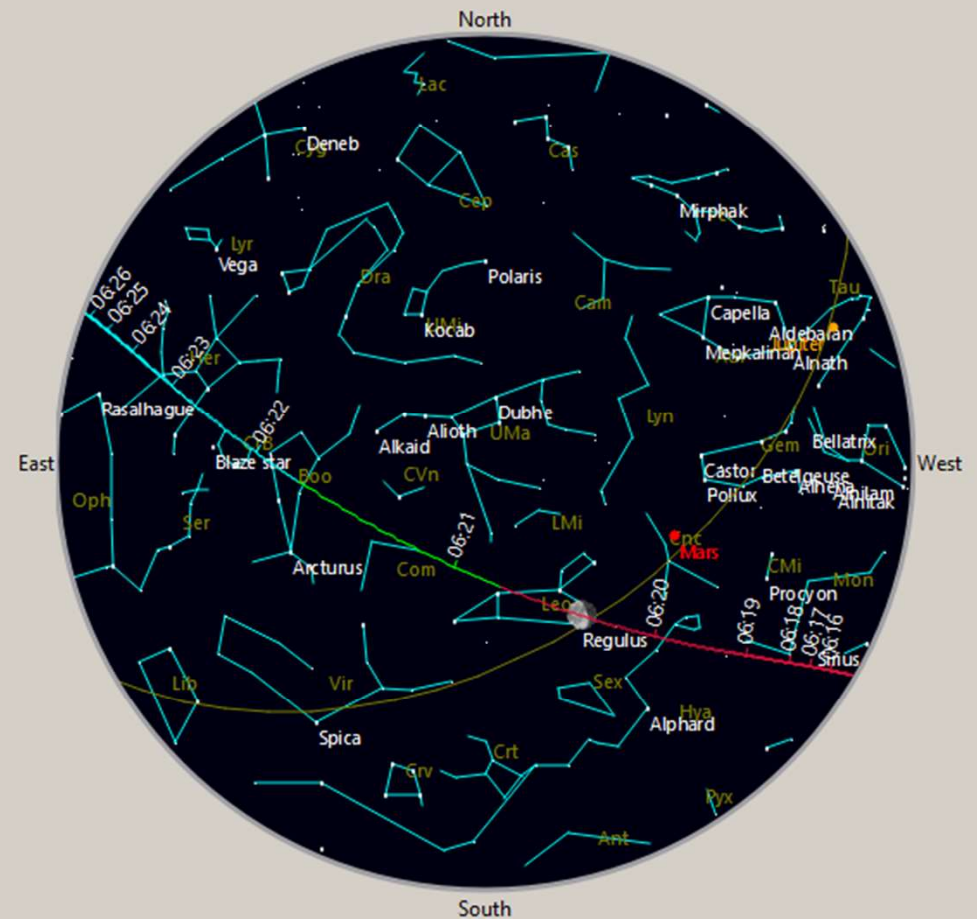


Save text file

Satellite	Date of maximum	Cst	Angle	Type	Body	Illum	Duration	Sun elevation
ISS	2024/12/05 10:30:25.0	Oph	0.23	T	S	III	0.9	+13°00'47"
AQUA	2024/12/14 04:55:58.1	Tau	2.01	C	M	Sha	29.2	-35°04'54"
ENVISAT	2024/12/14 06:40:57.2	Tau	3.28	C	M	Sha	47.2	-17°59'01"
AQUA	2024/12/14 16:00:07.0	Oph	0.19	T	S	III	2.9	+06°00'00"
ISS	2024/12/18 07:57:48.2	Cnc	0.18	T	M	III	1.0	-06°40'44"
ISS	2024/12/18 09:33:25.7	Cnc	4.57	C	M	III	24.9	+05°56'59"
ISS	2024/12/19 07:09:11.2	Cnc	4.81	C	M	III	5.1	-14°04'06"
ISS	2024/12/20 06:20:28.9	Leo	0.19	T	M	Sha	0.5	-21°52'19"
ISS	2024/12/20 11:08:29.9	Leo	1.94	C	M	III	60.1	+14°24'39"
ENVISAT	2024/12/22 03:20:30.0	Vir	2.46	C	M	Sha	30.2	-50°55'50"
ISS	2024/12/22 11:08:08.0	Vir	1.33	C	M	III	35.1	+14°19'19"
AQUA	2024/12/23 02:42:45.6	Vir	2.94	C	M	Sha	32.7	-56°13'00"
ENVISAT	2024/12/23 02:42:58.5	Vir	1.75	C	M	Sha	47.2	-56°11'21"
ISS	2024/12/23 10:20:19.6	Vir	2.33	C	M	III	19.4	+10°28'50"



Show the map



Orbital events Tab

- Calculation of shadow-penumbra-light transitions, perigee-apogee passes, nodes passes...

The screenshot shows the 'Orbital events' tab of a software application. The interface includes several tabs at the top: 'Main', 'Osculating elements', 'Satellite information', 'Orbital events' (selected), 'Telescope', and 'Antenna'. Below the tabs, there are date selection fields for 'Start date' (02/12/2024 17:44:00) and 'End date' (09/12/2024 17:44:00), with an 'Erase hours' button. A section titled 'Events' contains five checkboxes, all of which are checked: 'Passes to nodes', 'Terminator passes', 'Passes to apogee/perigee', 'Passes to shadow/penumbra/light', and 'Passes to Position = 90° and 270°'. Below this, there is a field for 'Ages of orbital elements' showing values 0.73 and 2.21 in green, followed by a bracket and the word 'days'. At the bottom, there are three buttons: 'Default settings', 'Update orbital elements...', and 'Run'. On the right side, there is a 'Filter' section with a search bar and a list of satellites with checkboxes. The 'ISS' is checked, while others are unchecked.

Start date : 02/12/2024 17:44:00

End date : 09/12/2024 17:44:00

Events

- ☒ Passes to nodes
- ☒ Terminator passes
- ☒ Passes to apogee/perigee
- ☒ Passes to shadow/penumbra/light
- ☒ Passes to Position = 90° and 270°

Ages of orbital elements : [0.73 2.21] days

Filter

- ☒ ISS
- ☐ KORONAS-FOTON
- ☐ METEOR PRIRODA
- ☐ MIDORI II (ADEOS-II)
- ☐ OAO 2
- ☐ OAO 3 (COPERNICUS)
- ☐ OKEAN-3
- ☐ OKEAN-O
- ☐ ORBVIEW 2 (SEASTAR)

Orbital events results

Orbital events

Save text file

PreviSat 7.0.0.10 / Astropedia (c) 2005-2024

Timezone : UTC + 01:00

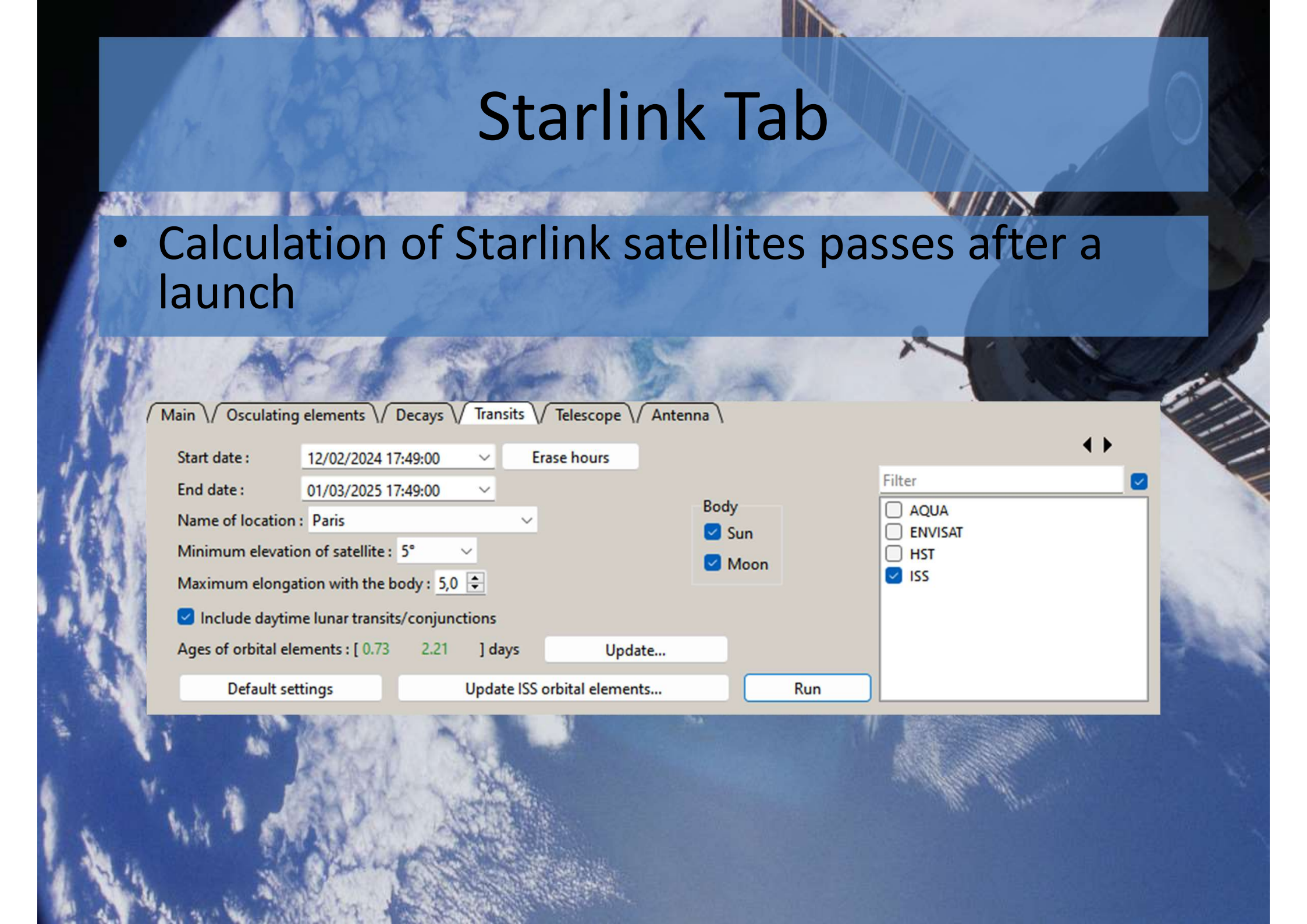
Age of the element : 0.78 days (at 12/02/2024 17:45:00)

ISS

Date	Hour	Position	Longitude	Latitude	Events
2024/12/02	17:52:23	134.13°	022.75° E	34.42° N	Light -> Penumbra
2024/12/02	17:53:42	139.23°	026.88° E	30.96° N	Penumbra -> Shadow
2024/12/02	18:04:13	180.00°	052.38° E	00.00° S	Descending node - Position = 180°
2024/12/02	18:08:06	195.03°	060.87° E	11.81° S	Apogee : 6797.2km (419.1km)
2024/12/02	18:21:19	246.22°	102.69° E	46.02° S	Shadow -> Penumbra
2024/12/02	18:22:38	251.36°	109.20° E	48.15° S	Penumbra -> Light
2024/12/02	18:27:27	270.00°	136.48° E	51.79° S	Pass to position = 270°
2024/12/02	18:30:48	282.99°	156.01° E	49.98° S	Night->Day terminator pass
2024/12/02	18:50:39	000.00°	139.42° W	00.00° N	Ascending node - Position = 0°
2024/12/02	19:08:47	070.35°	083.91° W	47.77° N	Perigee : 6791.3km (413.2km)
2024/12/02	19:13:51	090.00°	055.31° W	51.79° N	Pass to position = 90°
2024/12/02	19:17:14	103.15°	035.56° W	49.94° N	Day -> Night terminator pass
2024/12/02	19:25:21	134.67°	000.38° W	34.06° N	Light -> Penumbra
2024/12/02	19:26:41	139.83°	003.75° E	30.55° N	Penumbra -> Shadow
2024/12/02	19:37:03	180.00°	028.79° E	00.00° S	Descending node - Position = 180°
2024/12/02	19:40:56	195.07°	037.30° E	11.84° S	Apogee : 6797.3km (419.1km)
2024/12/02	19:54:09	246.25°	079.14° E	46.04° S	Shadow -> Penumbra
2024/12/02	19:55:29	251.44°	085.71° E	48.18° S	Penumbra -> Light
2024/12/02	20:00:16	270.00°	112.89° E	51.79° S	Pass to position = 270°
2024/12/02	20:03:42	283.31°	132.87° E	49.90° S	Night->Day terminator pass
2024/12/02	20:23:29	000.00°	163.01° W	00.00° N	Ascending node - Position = 0°
2024/12/02	20:41:34	070.21°	107.69° W	47.71° N	Perigee : 6791.3km (413.2km)
2024/12/02	20:46:40	090.00°	078.90° W	51.79° N	Pass to position = 90°
2024/12/02	20:50:09	103.47°	058.70° W	49.85° N	Day -> Night terminator pass
2024/12/02	20:58:20	135.22°	023.51° W	33.69° N	Light -> Penumbra
2024/12/02	20:59:40	140.43°	019.38° W	30.13° N	Penumbra -> Shadow
2024/12/02	21:09:53	180.00°	005.20° E	00.00° S	Descending node - Position = 180°

Starlink Tab

- Calculation of Starlink satellites passes after a launch



The screenshot shows a software window with several tabs: Main, Osculating elements, Decays, Transits, Telescope, and Antenna. The 'Main' tab is active. It contains the following fields and controls:

- Start date:** 12/02/2024 17:49:00 (dropdown menu) and an **Erase hours** button.
- End date:** 01/03/2025 17:49:00 (dropdown menu).
- Name of location:** Paris (dropdown menu).
- Minimum elevation of satellite:** 5° (dropdown menu).
- Maximum elongation with the body:** 5,0 (spin box).
- ☒ **Include daytime lunar transits/conjunctions**
- Ages of orbital elements:** [0.73 2.21] days, followed by an **Update...** button.
- Buttons at the bottom: **Default settings**, **Update ISS orbital elements...**, and **Run**.

On the right side, there is a **Filter** section with a search bar and a list of celestial bodies:

- ☐ AQUA
- ☐ ENVISAT
- ☐ HST
- ☒ ISS

Navigation arrows (left and right) are located above the filter section.

Starlink Tab

Starlink passes



Save



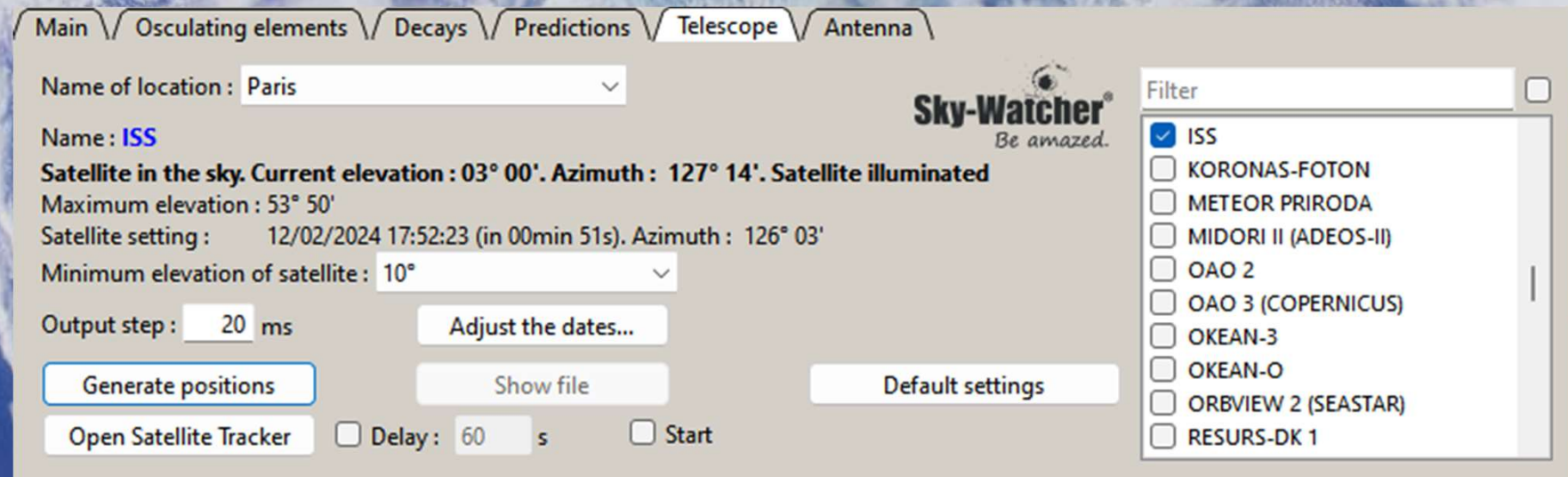
Save text file

Satellite	Start date	End date	Max elevation	Magnitude	Sun elevation
STARLINK-G6-70	2024/12/10 18:17:00	2024/12/10 18:17:00	03°20'11"	+9.7	-12°55'48"
STARLINK-G6-70	2024/12/11 18:17:00	2024/12/11 18:18:00	06°26'50"	+7.7	-13°04'17"
STARLINK-G6-70	2024/12/11 19:49:00	2024/12/11 19:49:00	04°50'00"	+10.0*	-27°39'01"
STARLINK-G6-70	2024/12/12 18:17:00	2024/12/12 18:20:00	09°48'05"	+6.6	-13°12'23"
STARLINK-G6-70	2024/12/12 19:50:00	2024/12/12 19:50:00	04°31'16"	+9.0*	-27°47'14"
STARLINK-G6-70	2024/12/13 18:18:00	2024/12/13 18:21:00	13°17'30"	+5.9	-13°20'05"
STARLINK-G6-70	2024/12/13 19:51:00	2024/12/13 19:51:00	04°15'44"	+8.9*	-27°55'04"
STARLINK-G6-70	2024/12/14 18:19:00	2024/12/14 18:22:00	16°40'07"	+5.4	-13°27'24"
STARLINK-G6-70	2024/12/14 19:52:00	2024/12/14 19:52:00	04°09'25"	+9.0	-28°02'31"



Telescope Tab

- Developed in partnership with Sky-Watcher
- PreviSat generates the positions and provides them to the Satellite Tracker software (developed by Sky-Watcher), the latter allows to pilot the mount and follow the satellite



Main \ Osculating elements \ Decays \ Predictions \ **Telescope** \ Antenna

Name of location : Paris

Name : ISS

Satellite in the sky. Current elevation : 03° 00'. Azimuth : 127° 14'. Satellite illuminated

Maximum elevation : 53° 50'

Satellite setting : 12/02/2024 17:52:23 (in 00min 51s). Azimuth : 126° 03'

Minimum elevation of satellite : 10°

Output step : 20 ms Adjust the dates...

Generate positions Show file Default settings

Open Satellite Tracker ☐ Delay : 60 s ☐ Start

Sky-Watcher®
Be amazed.

Filter

- ☒ ISS
- ☐ KORONAS-FOTON
- ☐ METEOR PRIRODA
- ☐ MIDORI II (ADEOS-II)
- ☐ OAO 2
- ☐ OAO 3 (COPERNICUS)
- ☐ OKEAN-3
- ☐ OKEAN-O
- ☐ ORBVIEW 2 (SEASTAR)
- ☐ RESURS-DK 1

Antenna Tab

- Developed in partnership with CatRotator
- PreviSat provides the position of a radio satellite to the CatRotator software by means of UDP protocol, the latter allows to pilot the antenna and follow the radio satellite

The screenshot shows the 'Antenna' tab in the PreviSat software. The interface is divided into several sections:

- Top Navigation:** Main, Osculating elements, Satellite information, Transits, Telescope, Antenna (selected).
- Connection Section:**
 - IP address: 127.0.0.1
 - Port: 12000
 - Buttons: Connect, Open CatRotator, Default settings
- Frequency and Real-time Data Section:**

Uplink frequency:	Downlink frequency:	Name:
145.825 MHz	145.825 MHz	ISS
Real frequency: 145.821925 MHz	Real frequency: 145.828075 MHz	Next LOS in 07min 56s
Doppler: -3075 Hz	Doppler: 3075 Hz	
Free-space loss: 136.81 dB	Free-space loss: 136.81 dB	
Delay: 3.78 ms	Delay: 3.78 ms	
Beacon: -	Beacon: -	
Mode: 1200bps AFSK	Mode: 1200bps AFSK	
Callsign: RS0ISS ARISS	Callsign: RS0ISS ARISS	

Software options

- Management of several places of location (grouped by countries and by frequently used locations)
- Predictions calculations for any location on Earth
- Many display options
- ...

Software tools

- Orbital elements updating (can be made automatically at launch)
- Management of files with the old format of orbital elements (TLE)

Version 7.0

- Version 7.0 currently available :
 - 52,806 lines of code
 - New features:
 - Information about upcoming launches
 - Information about decays
 - Satellite information more complete\$
 - ...
 - User interface available in French, English and Japanese

About the software

- Download :
 - <https://sourceforge.net/projects/previsat/>
- Software presentation (in English) :
 - <http://previsat.sourceforge.net/>
- Referenced on <https://celestrak.org/>