Select start of calculation:
Date: 7 August 2012
Time: 22 : 00 : 00 Now
Select duration: 1 Hour go!

Istres, France	
Easting:	4.9879
Northing:	43.513
Time zone:	CET/ CEST

Hobby

Weather · Sat-Image

Local Sponsors: Your name?

Bright Satellites

- Tracking of satellites all over the sky.
- Searching for satellites found within a certain area (given by celestial coordinates and diameter). This point is taken from the last starchart geometry. To change the center and diameter, click **here** (field of view must be at least 1° and at most 90°). Satellites are sorted by ascending elongation from selected center point. For the listed events the conjunction takes place during selected duration. If you are a astro photographer, you can also find the time interval where no LEO satellite will pass through your field of view.

Magnitude cutoff used for the following list: 1 Mag. (Manual selection) go!

Tuesday 7 August 2012

Time (24-hour clock)	Object (Link)	Event

	Observer Site	`Istres, France`
		`WGS84: Lon: +4d59m16.7s Lat: +43d30m46.8s Alt: 66m`
		`All times in CET or CEST (during summer)`

22h29m06s	ISS
	→Ground track
	→Star chart
		`Appears 22h23m49s 0.0mag az:229.8° SW horizon`
		`at Meridian 22h28m50s -4.2mag az:180.0° S h:62.9°`
		`Culmination 22h29m06s -4.3mag az:144.5° SE h:67.4°`
		`distance: 436.6km height above Earth: 405.3km`
		`elevation of Sun: -15° angular velocity: 1.02°/s`
		`Disappears 22h32m47s -1.3mag az: 61.0° ENE h:7.5°`

2 Items/Events: Export to Outlook/iCal Print
Used satellite data set is from 8 August 2012

Hide glossary

Glossary:

Time

The local time in 24-hour format at which the satellite is visible at its best. The satellite may be observable *before* this time. 0:00 or 0h00m is midnight, 12h is noon, 18h is 6 pm. The time zone is the one indicated on the left of the Earth icon on top of (almost) each page. Daylight saving is applied automatically.

Appears

Local time at which the satellite appears visually. The first figure indicates the **visual brightness** of the object. The smaller the number, the brighter and more eye-catching it appears to an observer. The units are astronomical magnitudes [m]. **Azimuth** is given in degrees counting from geographic north clockwise to the east direction. The three-character direction code is given as well. In case the satellite exits from the Earth shadow and comes into the glare of the Sun, the elevation above horizon is given in degrees for this event. If this figure is omitted, the satellite is visible straight from the horizon.

Culmination

Time at which the satellite reaches his highest point in the sky as seen from the observer. For description of the figures see **Appears**.
Visually "better" passes of satellites are indicated by highlighting the information. The selection within the list of all possible transits is coupled with the observer level, the daylight, and several other conditions.

Économisez sur tous les produits

Exploring With GPS
Bright Angel Press...
Nouveau EUR 3,60
1er Prix EUR 3,60

Satellites
Rebecca L. Johnson...

Darksiders II
Prima Games, Steph...

Fifty Shades Freed
E. L. James

Jane Austen Collection
White Hart Lane

A propos de cet espace

at Meridian

Time of the transit of the meridian, i.e. the satellite is due South or due North. At this time, the satellite will not reach its highest point of the pass. Look for culmination.

Disappears

Local time of visual disappearance of the satellite. This may either be the time at which the satellite moves below the observer's horizon or the entry of the object in the shadow of Earth (the elevation is given for this event). The low Earth orbiting (LEO) satellites are usually visible for about 10 seconds more than the listed time, when they start fading rapidly.

Magnitude/Mag:

The magnitude indicates the **visual brightness** of an object. The brightest star (Sirius) reaches -1.4m, whereas 6m is the limit of the unaided eye. Venus, the brightest planet, reaches -4m. The Moon at first quarter is -8m, about the same magnitude that the brightest Iridium flares can produce.

Object

The name and identification information of the satellite. Besides the name, the number in the catalog of the USSPACECOM is given (5-digits code), and the International Designator Code in the form launch year - launch number of the year - launch part (usually one launch produces several orbiting objects).

Spy Satellites:

Satellites with name **USA** are US military satellites (common names e.g., Keyhole KH, Lacrosse).

Close to Moon/Sun

The satellite is closer than 1.5 degrees from the center of the Moon or the Sun, but the satellite does not cross in front of the Moon/Sun. The direction and distance to the center line on Earth is given. *For the Sun, move to the indicated center line position and observer with proper equipment. By no means observe the Sun without special filters!*

Crosses the disk of Moon/Sun:

The satellite passes in front of the Moon or the Sun; the event may be observed using a small telescope (equipped with special mylar filters for the Sun only!), especially if the event

takes place in broad daylight. The direction and distance to the center line on Earth is given. Moon phases are not checked for. The timing may slightly change due to the quality and age of the used orbital elements and active orbit maintenance. *By no means observe the Sun without special filters!* Please feel free to report successful observations!

Separation

Angular distance of an object (e.g., star) with regard of the reference object (e.g., main star or center of moon). Often, this value is given for the closest distance among two objects.

Position Angle / PA

Angle, defining a position on an apparent disk or the position of a dimmer star with regard of the main star. It is counted around the reference points (center of disk/brighter star) from *celestial north* direction 0° to east (left) 90°, south 180° to west (right) 270° in counter clockwise direction.

Clock-face Direction

In a simple clock-face coordinate system with the clock face superimposed on the satellite itself, with 12:00 o'clock being at the top and 9:00 o'clock being at the left, the satellite will seem to move toward the given direction. This number is helpful when observing with binoculars.

Daylight pass

This satellite pass over the observer is taking place on broad daylight and cannot be observed without special equipment (automated guided telescope or radio ham equipment).

Radio pass

The satellite is not outside the shadow of Earth during the whole pass (hence not lighted by the Sun) and is therefore not visible. However, using radio equipment, the satellite can be detected.

Ascending/descending Orbit:

Satellites are orbiting around the earth center. Therefore the point on the Earth surface "below" the satellite (i.e., the sub-satellite point) crosses the equator twice every orbit. The part of the orbit with northernbound motion component is called ascending, and a southernbound motion is called descending.

Rise

The satellites rises above the horizon of the observer (cf. **Appear** for visual rising of the satellite).

Set

The satellites sets below the horizon of the observer, but may not have been visible before (cf. **Disappear**).

Side-look

Time at which the observer is passing exactly at the side of the satellite (as seen from the satellite).

Off-Nadir

Angle at which the observer appears from the nadir (down direction) as seen from the satellite.

Squint angle

Angle relative to the satellite orbit; flight direction is 0°. The angle is counted clockwise, with right looking at 90° and left looking at 270°.

Range

Distance to the satellite.

0-Doppler / Zero-Doppler

Time at which the range between satellite and observer does not change, i.e., the range rate is zero.

Forecasted Decay:

All Earth orbiting satellites are exposed to atmospheric drag, which lowers the orbit. Usually, this is countermeasured by frequent firings of the rocket engines - as long there is propulsion available. At an altitude of about 120 km, the objects are destroyed in the atmosphere by a fiery play; the over 100 km long light trace is visible even at daylight. Predications however

are difficult. CalSky calculates the evolution of the satellite elements and the time of final decay based on SatEvo by Alan Pickup.

Top

This material is ©1998-2012 by Arnold Barmettler (Imprint). Hard copies may be made for personal use only. No electronic copy may be located elsewhere for public access. All pages are dynamically generated. The usage of web copy tools is strictly prohibited. Commercial usage of the data only with written approval by the author. If you have any questions or comments, or plan to use results from *CalSky* in your publications or products, please contact us by e-mail. Credits. *Dieser Service wird in der Schweiz entwickelt und betrieben; Sie können uns auch gerne auf Deutsch schreiben.*

Create new default account/Login

Happy User Donation

Software Version: 23 August 2012
Database updated 4 min ago
Current Users: 181

24 Aug 2012, 17:36 UTC
38 minutes left for this session

Google Search
Web CalSky.com