Select start of calculation:

Date: 26 July 2012

Time: 22 : 00 : 39 Now

Select duration: 1 Hour go!

Montchaboud, France

Easting: 5.7628

Northing: 45.0952

Time zone: CET/ CEST

Hobby

Weather · Sat-Image

Local Sponsors: Your name?

The Calendar-Sky

The astronomical calendar contains **thousands of events per day** for every point on Earth. We know that you only care for a very few of these events and hence we let you personalize your own Astro-Calendar. You may primarily do so by switching to your appropriate user level, and by selecting some of the three dozens categories.

In parentheses are forced limits for the maximum calculation interval. The celestial calendar is to be found further below on this page and will appear within some seconds after pressing the *Go!*-Button (depending on the complexity of your selections). The calendar is created especially for you. The higher your user level, the more complex objects you selected, the longer it does take to calculate. *Please do not press the reload-button*; the calculations will take significantly longer.

Calendar and Timekeeping

- ☐ Space Calendar: Birthdays, Rocket Launches
- ☑ Local Events (Talks, Exhibitions)
- ☑ NASA TV Guide
- ☐ Local Telescope Dealers
- ☐ Public Holidays
- ☐ Saint's Day
- ☐ Zodiac of today. Change of Zodiac
- ☐ Islamic, Indian, Persian and Hebrew Calendar
- ☐ Week Number

General events

- ☑ Lunar Occultations (2 months)
- ☑ Planetary Conjunctions
- ☑ Lunar Eclipses
- ☑ Solar Eclipses and Transits
- ☑ Meteor Streams
- ☑ Planetary Phenomena
- ☑ Lunar Phenomena
- ☑ The Sun
- ☐ Asteroids (6 months)
- ☐ Comets

Earth orbiting satellites

- ☑ Space Station ISS (1 month)
- short duration
- ☑ Flares of Iridium satellites (14 days)
- ☑ Passes of other bright satellites (*7 days*, slow!)

Daily reoccurring events

- ☑ Sun and Moon
- ☑ Planets
- ☑ Asteroids
- ☑ Comets
- ☑ Meteor Streams
- ☐ Polar Star Transits

Dimmer and more difficult objects

- ☑ Jupiter: Great Red Spot and satellite events
- ☐ Jupiter's Satellites: position
- ☐ Saturn: Satellite events and storms
- ☐ Saturn's Satellites: position
- ☐ Zodiacal light/Gegenschein
- ☐ Variable Stars (3 months)
- ☐ Supernovae
- ☐ Binary Stars

Deep sky objects

- Sundials / GPS
- Time / Current Time Definitions
- Julian Day Number
- Sidereal Time
- Local Magnetic Field
- Weather Balloons
- Milky Way
- Galaxies
- Open Star Clusters
- Globular Star Clusters
- Nebula

go!

Thursday 26 July 2012

Time (24-hour clock)	Object (Link)	Event
	Observer Site	**Montchaboud, France** **WGS84: Lon: +5d45m46.4s Lat: +45d05m42.9s Alt: 577m** **All times in CET or CEST (during summer)**
22h00m39s	OBJECT G (38083 2012-006-G) →Ground track →Star chart	**Appears 21h43m20s** 4.5mag az:209.5° SSW horizon **Culmination 21h54m46s 2.0mag az:298.5° WNW h:80.0°** distance: 1287.4km height above Earth: 1271.6km elevation of Sun: -7° angular velocity: 0.31°/s **at Meridian 21h55m45s** 2.1mag az: 0.0° N h:69.6° **Disappears 22h04m33s** 4.5mag az: 28.1° NNE horizon Time uncertainty of about 3 seconds
22h00m39s	Cosmos 1825 (17566 1987-024-A) →Ground track →Star chart	**Appears 21h50m58s** 6.1mag az:175.7° S horizon **Culmination 21h57m03s 3.1mag az: 94.5° E h:53.4°** distance: 677.9km height above Earth: 556.7km elevation of Sun: -8° angular velocity: 0.65°/s **Disappears 22h03m11s** 7.3mag az: 13.6° NNE horizon
22.0h	♂ **Mars**	**Magnitude= 1.0mag Best seen from 21.7h -23.7h (h_{top}=20° at WSW at 21.7h) (in constellation Virgo)** **RA=12h47m01s Dec= -5°04.8' (J2000)** **Distance=1.595AU Elongation= 69° Phase k=89%** **Diameter=5.9" planetographic latitude of the Earth=25.3°**
22.0h	♄ **Saturn**	**Magnitude= 0.8mag Best seen from 21.7h - 0.3h (h_{top}=25° at SW at 21.7h) (in constellation Virgo)** **RA=13h30m13s Dec= -6°49.0' (J2000)** **Distance=9.887AU Elongation= 79° Diameter=16.7" planetocentric latitude of the Earth=13.0°**
22h03m46s	Yaogan 9A (36413 2010-009-A) →Ground track →Star chart	**Appears 21h53m59s** 11.0mag az:320.9° NW horizon **Culmination 22h03m46s 4.7mag az:234.6° SW h:82.9°** distance: 1145.3km height above Earth: 1138.3km elevation of Sun: -9° angular velocity: 0.35°/s **at Meridian 22h04m14s** 4.6mag az:180.0° S h:77.7° **Disappears 22h11m12s** 6.2mag az:148.3° SSE h:9.4°
22h03m55s	Yaogan 9B (36414 2010-009-B)	**Appears 21h54m09s** 11.0mag az:320.7° NW horizon **Culmination 22h03m55s 4.7mag az:235.2° SW h:79.8°** distance: 1153.6km height above Earth: 1138.8km

	→Ground track →Star chart	elevation of Sun: -9° angular velocity: 0.35°/s **at Meridian 22h04m37s** 4.6mag az:180.0° S h:72.4° **Disappears 22h11m26s** 6.3mag az:149.9° SSE h:9.1°
22h04m06s	Yaogan 9C (36415 2010-009-C) →Ground track →Star chart	**Appears 21h54m19s** 11.0mag az:320.9° NW horizon **Culmination 22h04m06s 4.7mag** az:234.6° **SW h:82.7°** distance: 1145.9km height above Earth: 1138.6km elevation of Sun: -9° angular velocity: 0.35°/s **at Meridian 22h04m35s** 4.6mag az:180.0° S h:77.5° **Disappears 22h11m32s** 6.2mag az:148.3° SSE h:9.5°
22h06m	Sun	Sun 9° below horizon
22h12m02s	NOSS 3-1 Rocket (26906 2001-040-B) →Ground track →Star chart	**Appears 22h03m10s** 6.2mag az:210.8° SSW horizon **at Meridian 22h11m22s** 3.3mag az:180.0° S h:71.2° **Culmination 22h12m02s 3.3mag** az:124.6° **SE h:79.1°** distance: 1043.9km height above Earth: 1028.3km elevation of Sun: -10° angular velocity: 0.41°/s **Disappears 22h21m40s** 6.5mag az: 39.2° NE horizon
22h28m38s	USA 186/KH (28888 2005-042-A) →Ground track →Star chart	**Appears 22h27m48s** 3.8mag az:118.9° ESE h:24.0° **Culmination 22h28m38s 3.4mag** az: 73.9° **ENE h:33.4°** distance: 478.1km height above Earth: 275.6km elevation of Sun: -12° angular velocity: 0.98°/s **at Meridian 22h31m24s** 7.4mag az: 0.0° N h:5.2° **Disappears 22h32m28s** 8.3mag az:355.6° N horizon
22h29m	**Sun**	**Dusk**
22h35m44s	XaTcobeo (38082 2012-006-F) →Ground track →Star chart	**Appears 22h24m37s** 4.7mag az:226.5° SW horizon **Culmination 22h35m44s 3.0mag** az:305.1° **NW h:48.8°** distance: 1561.4km height above Earth: 1244.3km elevation of Sun: -13° angular velocity: 0.26°/s **at Meridian 22h39m02s** 3.5mag az: 0.0° N h:31.1° **Disappears 22h45m10s** 4.7mag az: 25.6° NNE horizon Time uncertainty of about 3 seconds
22h42m29s	ALOS (28931 2006-002-A) →Ground track →Star chart	**Appears 22h39m26s** 4.3mag az:135.9° SE h:19.3° **Culmination 22h42m29s 3.4mag** az: 70.5° **ENE h:46.6°** distance: 923.9km height above Earth: 700.4km elevation of Sun: -14° angular velocity: 0.48°/s **at Meridian 22h46m30s** 6.6mag az: 0.0° N h:12.9° **Disappears 22h49m19s** 8.2mag az:352.7° N horizon
22h46m14s	Cosmos 2369 Rocket (26070	**Appears 22h38m09s** 8.7mag az:336.7° NNW horizon **at Meridian 22h43m58s** 4.8mag az: 0.0° N h:33.5° **Culmination 22h46m14s 3.2mag** az: 59.4° **ENE h:54.2°**

	2000-006-B) →Ground track →Star chart	distance: 1009.7km height above Earth: 843.2km elevation of Sun: -14° angular velocity: 0.41°/s **Disappears 22h49m54s** 4.0mag az:130.2° SE h:20.7°
22h53m20s	USA 229/NOSS-3 5(B) (37391 2011-014-B) →Ground track →Star chart	**Appears 22h43m18s** 7.2mag az:205.5° SSW horizon **at Meridian 22h51m39s** 4.7mag az:180.0° S h:53.0° **Culmination 22h53m20s 4.4mag** az:122.5° **ESE h:68.6°** distance: 1225.3km height above Earth: 1154.6km elevation of Sun: -15° angular velocity: 0.35°/s **Disappears 23h03m08s** 7.7mag az: 39.9° NE horizon
22h53m27s	USA 228/NOSS-3 5(A) (37386 2011-014-A) →Ground track →Star chart	**Appears 22h43m26s** 7.2mag az:205.2° SSW horizon **at Meridian 22h51m42s** 4.7mag az:180.0° S h:51.8° **Culmination 22h53m27s 4.4mag** az:122.4° **ESE h:67.9°** distance: 1227.7km height above Earth: 1152.2km elevation of Sun: -15° angular velocity: 0.35°/s **Disappears 23h03m14s** 7.7mag az: 39.9° NE horizon
22h54m	Sun	Sun 15° below horizon

18 Items/Events: Export to Outlook/iCal Print

Used satellite data set is from 25 July 2012

Hide glossary

Glossary:

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.

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.

Azimuth/az

Azimuth direction of the object is given in degrees counting from geographic north (0°) clockwise to the east direction. East is 90°, south 180°, and west 270°. The three-character direction code is given as well. For example, NNW stands for north-north-west.

Best seen between / h_{max}

This is the best visibility time interval of the object. The calculation takes into account the magnitude of the object (required elevation above horizon), and the elevation of the Sun. The time is given in local civil time (LCT), i.e., the time zone and definitions as selected by you. h_{max} is the maximum altitude over the horizon, that the object reaches during this time period.

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.

Dawn and Dusk: nautical Twilight

In CalSky, is taken as the moments of nautical twilight, i.e., the moments the Sun reaches a depression of 12° below the horizon. Not astronomically trained people will recognize the brightening of the horizon at these times.

Dec., declination, DE

One coordinate used to indicate the position on the sky. It is the angular distance of the object from the celestial equator. North pole, close to Polaris, is 90° north.

Diameter

Diameter is the geocentric apparent angular diameter of a celestial object (topocentric for artificial satellites). The value is given in seconds of arc for planets and satellites, and in minutes of arc for Sun and Moon.

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.

Elongation

The elongation is the angular separation of the (ecliptic) longitudes of a celestial body and the central body (Sun, for moons: Jupiter or Saturn), as seen from the Earth mass center.

J2000, precession, nutation

The plains of ecliptic and equator shift with time by perturbations from the Sun, Moon and planets. The long-term shift is called precession; the short periodic variations are called nutation. The given celestial coordinates are referred to the true direction of the vernal equinox and the true obliquity of the ecliptic to the standard reference time 1 January 2000. For this date many star charts and coordinate tables are printed.

Magnitude/Mag

Brightness of an object considered as a point source of light, on a logarithmic scale.\ Visual limiting magnitude is about 6mag, whereas the brightest star Sirius reaches -1.4mag. The Hubble Space Telescope can image objects as dim as 29mag.

Phase

Ratio of the illuminated fraction of the apparent planetary or lunar disk to its entire area.

R.A., right ascension, RA

One coordinate used to indicate the position on the sphere. It is the angular distance of the object from the spring equinox measured along the celestial equator, expressed in hours of arc.

Time and Date

Date of validity of calculated output in local time and date, taking into account daylight saving time as well (see the current time zone on the left of the Earth icon on top right of almost all pages). The time is given as hours:minutes:seconds, or 00h00m00s. The time may also be rounded and given in decimal form: e.g., 10.1h means that the event will take place at about 5 minutes past 10 o'clock. This may also happen for days: 4.3d corresponds to the fourth day at around 7 o'clock. The start time is taken as selected by you, i.e., this is *not* necessarily at midnight. For intervals shorter than one day, decimal days are given. Times are given in 24 hour format (0h00m is midnight, 12h: noon, 18h: 6 pm.)

WGS84 / Geographical Coordinates

Geographical coordinates are given by the angles longitude (Lon), latitude (Lat), and altitude in meters (Alt). A place north of the equator at marked by N or +, places south of the equator by S or -. The longitude from the meridian of Greenwich is counted positive towards east (E). Places west from Greenwich are marked W or by -. The geographical

coordinates refer to an ellipsoid, which fits the true shape of the Earth (geoid). The geoid corresponds to calm sea surface. The keyword "Geographic:" uses the local ellipsoid as reference system. WGS84 mark coordinates referring to the WGS84 ellipsoid. The difference in altitude to the geoid sums up to 100 meters and is called geoid undulation. This is corrected for when tagged "MSL" (mean sea level), such that the origin of the height system is at sea level.

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