

CAS Sky Notes for October 2025

We have now passed the autumnal equinox, giving greater opportunities for observing. The summer constellations, like Cygnus, Lyra, and Hercules are still high in the sky and the Milky Way runs overhead when seen from a dark site. Try to escape the city lights if you want the best view though.

Planets

Mercury

Mercury is not well placed this month. It is technically an evening object and reaches greatest eastern elongation of 24° on the 29th. However, its southern declination means it sets to soon after the Sun.

Venus

Venus is still a morning object, but the elongation decreases to 17° by the end of the month. The magnitude remains around -3.9, while the phase increases to 97% by the end of the month. The diameter is only around 11 arcsec. It will pass through superior conjunction next year.

Mars

Mars is technically still an evening object but is lost in the twilight.

Jupiter

Jupiter is still a morning object, but rises around 10 pm by the end of the month when the clocks have gone back. It is a prominent object in Gemini, just below the twin stars of Castor and Pollux.

Saturn

Saturn has just passed opposition and is therefore visible throughout the night. Its magnitude remains at +0.6, but the rings remain nearly edge on throughout the month. Although still fairly low in the sky, it can be found below the square of Pegasus. By mid month, its coordinates are: RA 0hr, Dec -2.5° . note: As it's a planet, it won't twinkle like a star, making it easier to identify.

Uranus

Uranus is approaching opposition next month, but rises by about 6 pm by the end of the month, when the clocks have gone back. It lies in Taurus with coordinates: RA 03h 54m, Dec $+20.1^\circ$, between the Pleiades and Aldebaran.

Neptune

Neptune has just passed opposition on 23rd September and is observable throughout the night. It is not an easy object, but it can be found with coordinates: RA 00h 03m, Dec -1.5° . It is also below the square of Pegasus.

Moon Phases:

7th Oct: Full Moon

21st Oct: New Moon

13th Oct: Last Quarter

29th Oct: First Quarter

Sun

The Sun is fairly active as it is still near solar maximum, so do watch out for large Sunspot groups. Remember to **never look at the Sun directly without a proper solar filter**.

Aurora

Aurora may be easier to see this month as the northern skies get darker earlier. Watch out for any exceptional activity though, using one of the many aurora alert apps.

Meteors

The Orionid meteor shower reaches its peak around the 20th October, but the maximum is broad, with some meteors being visible throughout the month. The Zenithal Hourly Rate (ZHR) is at least 20 and in some years it has exceeded this. This a favourable shower and worth looking for. The radiant is near Betelgeuse. These, like many showers, are best observed after midnight.

Deep Sky Objects

The Milky Way is still well placed, passing nearly overhead at the start of the month. Be sure to go to as dark a site as possible if you wish to see it. Somewhere in the countryside around Guiting Power or Miserden may be the best, You can take a photo using a smart phone such as the iPhone 16. It needs to be on a tripod (or propped against something). Using night mode, you can take a 30 second single exposure. Using the *Astroshader App* makes the task better as it will stack in camera.

The Andromeda galaxy (M31) is well placed by late evening. M51 (Whirlpool) and M101 (Pinwheel) near Ursa Major are also well placed for observation and photography. M13 and M92 globular clusters in Hercules make good targets. The Ring nebula (M57) in Lyra is another good target, being very high in the sky. While in that region, have a look at Alberio in Cygnus. It's a beautiful double star (orange and blue) and is an easy object to see and view in a small telescope. The Double cluster in Perseus is another object to view, either in a small telescope or with binoculars in the late evening.

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