CAS Sky Notes for December 2023

If only the clouds would clear, the dark nights would be great for observing!

Planets:

Mercury: Mercury reaches greatest eastern elongation of 21° on the 4th December. You might be able to pick it up if you have a really clear western horizon. However, it is well south of the celestial equator and won't be an easy object.

Venus: Venus is still a prominent morning object. Its elongation drops to around 40° throughout the month. Its magnitude drops from -4.2 to -4.1 as the phase increases from 68% to 75% by the end of the month. The diameter decreases from 18 arcsec to 14.5 arcsec during this month. Also, it is moving well south of the celestial equator and so is much lower in the sky.

Mars: Although moving into the morning sky, it is not really visible this month.

Jupiter: Jupiter is very well placed and visible throughout the night. It is quite high in the sky by mid evening and unmistakeable. Look out for the 4 Galilean moons. Various websites will help you to identify them, www.shallowsky.com is worth using as it also shows the position of the Great Red Spot (GRS) and when it is visible.

Saturn is well past opposition, but is still observable in the early to mid evening. It is low in the sky, but is well worth viewing. The rings are at a shallow angle and it is a beautiful sight if you have a clear evening and a clear southern horizon. There is an interactive map of the moons available at skyandtelescope.org

Uranus is well placed throughout December. It is situated roughly half way between Jupiter and the Pleiades and so is fairly easy to find. If anyone wants more details, please email Neil at coord@cotswoldas.org.uk

Neptune. Neptune is fairly well placed for observation. It is at R.A. 23h 43m and Dec. -3.2° Contact your Coordinator if you want more ephemeris to find it.

The Sun
Solar activity is still increasing and solar observations are a good idea. **Take great care to never look directly at the Sun, or directly through an optical instrument.**
Ensure a proper filter is in place or project the image onto card.

Aurora Borealis: Increasing solar activity increases the chance of seeing an aurora. There are a number of Apps that can give you warnings and chances of seeing Aurorae. Mine is called *Aurora Pro*.

Although this is daytime, it is still observable and worth looking out for or photographing. Let's hope for clear skies

Meteor Showers: The Geminid meteor shower lasts from the 4th to the 17th. The maximum is on the 14th December. The ZHR (Zenith Hourly Rate) is around 100. The meteors are slow

and fairly bright. This is the richest of the annual showers and well worth watching. This shower is favourable as the Moon is not a problem, reaching new moon on the 12th.

Moon

5th December: Moon is at last quarter. **12th December:** New Moon
19th December: Moon is at First Quarter **27th December:** Full Moon.

Vesta: This reaches opposition on 21st December at approx. RA 6hr, Dec +20°.

The winter solstice occurs on the 22nd December

As a point of interest, the earliest sunset occurs on the 16th December and the latest sunrise on the 1st January. If you're interested as to why, Google it as it's not easy to explain here!