

CAS Sky Notes for October 2023

The evenings get dark pretty early and, as British Summer Time ends on the 29th, it will be dark early by the end of the month. This gives plenty of time for observing, provided the weather cooperates.

Planets:

Mercury: Mercury is still a *morning* object at the start of the month, but will be lost in twilight by the end of the first week. It has a more northerly declination and so may be visible if you have a clear eastern horizon before dawn. The elongation on the 3rd is 13° and the phase around 86%. The angular diameter is small, at around 5.5 arcsec and so it is not an easy object.

Venus: Venus is now an easy morning object. It reaches greatest western elongation of 46° on the 23rd and is well placed. It remains very bright, with a magnitude of -4.6 at the start of the month, but decreasing a little as it moves away from Earth. The phase therefore increases from 41% at the start of the month to 54% by the end.

Mars: As it approaches conjunction in November, Mars is now lost in the twilight

Jupiter reaches opposition next month and starts October by rising around 8 pm BST. By the end of the month it is visible for most of the night and will be a prominent object in the south-east. I urge you to train your telescopes on it. 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 reached opposition at the end of August and is visible for much of the night. 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 not far from Jupiter (in the sky – not in reality!) and so is becoming easier to find. It reaches opposition next month on the 13th. I will send out instructions to find it with the November sky notes. If anyone wants details before then, please email Neil at coord@cotswoldas.org.uk

Neptune reaches opposition on the 19th and so is well placed. Contact your Coordinator if you want 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.

Eclipses:

There is an Annular Solar Eclipse on the 14th October which crosses Western USA, Central and parts of South America. Nothing is visible from the UK

Partial Lunar Eclipse: This occurs on the 28th October: Details are as follows:

P1 (Moon enters Penumbra) :	18:02 UT (19:02 BST)
U1 (Moon enters Umbra) :	19:35 UT (20:35 BST)
U4 (Moon leaves the Umbra):	20:52 UT (21:52 BST)
P4 (Moon leaves Penumbra):	22:26 UT (23:26 BST)

At maximum, about 12% of the Moon is in the Umbra

Meteor Showers: The Orionid meteor shower lasts throughout the month, but reaches a maximum on the 21st-22nd October. The ZHR (Zenith Hourly Rate) is around 20. The meteors are fast moving, but can leave persistent trails. This shower is favourable as the Moon is not a major problem, reaching first quarter around then.

Moon

6th October: Moon is at last quarter

14th October: New Moon

22nd October: Moon is at First Quarter

28th October: Full Moon