

## CAS Sky Notes for September 2024

The nights are now getting much longer after our 'summer'. We reach the autumnal equinox on the 22<sup>nd</sup> September.

### Partial Lunar Eclipse

There will be a 'slight' partial eclipse of the Moon on September 18<sup>th</sup>. The maximum magnitude of the Moon in the umbral shadow is 0.085, so just a bit at the top right corner. It is also, of course, a long penumbral eclipse. The times are given below (converted to BST from UT). P1 refers to the start of penumbral phase, P4 the end. U1, onset of umbral phase and U4 the end. Greatest eclipse occurs at **03:45 BST**. All times below are BST.

P1 = 01:41      U1 = 03:12      U4 = 04:15      P4 = 05:47

### Planets

#### Mercury.

Mercury has moved into the morning sky and reaches greatest western elongation, of 18°, on the 5<sup>th</sup> September. Its northerly declination makes it higher in the sky and therefore easier to find. This is a good opportunity to view this planet if you are willing to get up before dawn! The diameter is around 7 arcsec at that stage and the phase 50% (of course I should add).

#### Venus

On the 5<sup>th</sup>, Venus will be 1.2° N of the Moon, which is only 2 days old. Venus is now an evening object with a magnitude of -3.9. Its elongation increases to 30°, with a phase of 85%, and a diameter of 12". Its southerly declination also makes it a tricky object to view this month.

#### Mars

This is still effectively a morning object, although it rises a little after midnight now. Its diameter increases a bit to 7.5 arcsec during the month and is high in the sky. Its approximate position is RA 6h 30m, Dec +23°, and its red colour and the fact that it won't be twinkling (planets don't twinkle) will make it easy to identify.

#### Jupiter

This rises before midnight now and is well placed for observing. It reaches opposition in December. It is unmistakable, with a magnitude of -2.4, so stay up and get observing!

#### Saturn

Saturn reaches opposition on September 8<sup>th</sup>. The rings have a tilt of about 3° and so are nearly edge on. This could make a nice photo. It is still a bit low in the sky and not very bright (mag.0.6) mainly because the rings are not contributing to its magnitude. Look for Titan, its brightest and biggest satellite which orbits every 16 days. While looking at it, remember that the Huygens probe landed on it back in 2005.

#### Uranus

Uranus is observable in the late evening (RA: 3h 39m, Dec +18.5°). It reaches opposition in November. Its magnitude is +5.6 and diameter 3.8".

## Neptune

Neptune reaches opposition on 21<sup>st</sup> September, with a diameter of 2.4" and mag. +7.8. Its approximate position is RA 23h 58m, Dec -1.8°.

Anyone wishing to observe them and who would like more details should contact me at [coord@cotswoldas.org.uk](mailto:coord@cotswoldas.org.uk)

## Moon

**3<sup>rd</sup> September:** New Moon

**18<sup>th</sup> September:** Full Moon

**11<sup>th</sup> September:** Moon is at First Quarter

**24<sup>th</sup> September:** Moon is at last quarter

## Sun

The Sun remains active currently, so watch out for large Sunspot groups. Remember to **never look at the Sun directly without a proper solar filter.**

## Aurora

The Sun is around its maximum activity and may produce more aurorae. I suggest you download an aurora alert App, such as *Aurora Pro*. The darker nights mean that there is a much better chance of seeing them.

## Meteors

There are no major meteor showers this month, but you could watch out for the September  $\epsilon$  Perseids during around the 9<sup>th</sup> of the month. Radiant position is RA 3h 16m Dec. +39°. The Zenithal Hourly Rate (ZHR) is only about 5, but some years they give a much better display.