

Sky Notes: 2010 October and November

by Callum Potter

With autumn drawing to an end and winter approaching, the nights are closing in and the light evenings are becoming shorter, so with more hours of darkness useful observing can be done in the evenings for those of us with 'normal' jobs. On October 31 at 2:00 a.m. British Summer Time ends, and the clocks go back one hour, to return to Greenwich Mean Time, conveniently the same as Universal Coordinated Time for those of us in the United Kingdom. All our favourite Winter constellations are coming back into easy view; Auriga & Taurus, with Orion starting to appear after midnight. A perfect time of year for observing, if we get any clear nights.

Sun

Observing the Sun will be worthwhile. There seems to be a steady increase in activity, with some quite energetic ejection, so monitoring the Sun will be useful. With more major coronal mass ejections which are earthward directed, there may be a possibility of displays of the northern lights at mid-latitudes, though those observers in the North of England and Scotland will be more favoured for all but the most energetic displays. Usually auroral displays start with a quiescent arc in the north, from which the signature green or red 'searchlight' rays will emanate. In more southerly latitudes, with the higher energy involved, a lot more red forms of the aurora will normally be seen. Of course it is hard to predict if aurora will be seen at any time, but you can sign up for alerts at the University of Lancashire's Aurora Watch (www.dcs.lancs.ac.uk/iono/

[aurorawatch](#)) or at Spaceweather (spaceweather.com).

Moon

The Moon is new on October 7 and November 6, and full on Oct 23 and Nov 21. There are a couple of bright star occultations to note. On October 28 early in the morning at around 05:10 UT the 2.8 magnitude variable star ι Gem, commonly known as Tejat or Castor's Foot, is occulted by the Moon, reappearing at around 05:57 UT. On November 24 at around 03:05 the 4.75 mag star λ Gem disappears behind the Moon, re-appearing around 04:05 UT. These are times for Greenwich; your local time will vary depending on your latitude and longitude. Information on how to determine local times can be found in your *BAA Handbook*.

Inner planets

Mercury will not be available for observation these months, and **Venus** will be at infe-

rior conjunction on Oct 29, but in November Venus will again become the 'morning star', prominent in the pre-dawn sky. **Mars** is very low in the west in October, disappearing from view, so is effectively not available for serious observation.

Outer planets

Jupiter is still the standout planet for observers and imagers, although it will be fading and reducing in angular size from about 50 arcseconds at the start of October to 43" at the end of November as it recedes from the Earth. Another meteor strike on Jupiter in August shows the usefulness of amateur observations (see page 263), and continual monitoring of the disk could be a fruitful project. Although this year has seen two impacts, neither has resulted in any obvious effect on the cloud patterns, but it will probably only be a question of time until amateurs record such an event.

Saturn is in conjunction, and will be unobservable. It will be December before it starts to make a re-appearance low in the East.

Uranus continues to shepherd Jupiter, which is an easy pointer to the 'green' planet, though the separation is growing through the two months, from around 1.3° at the start of October to about 3° at the end of November. It will be about magni-



Aurora display at Stenness, Orkney, photographed by Grant Privett in 2007 September.



NGC 891, an edge-on spiral galaxy in Andromeda, imaged by Gordon Rogers.

tude 5.7, so should be fairly easy to spot, but with a tiny disk of around 3.6" will require high power to resolve it as such.

Neptune is not observable at this time.

Meteors

Sadly two of the autumn's main meteor showers, the **Orionids** (Oct 22) and the **Leonids** (Nov 18), are not favourable this year, due to the maximum nights being near to the full Moon. However, it may be possible to do some useful observations of the Leonids after midnight as the Moon will be low in the west. There are a couple of other showers that will be worth looking out for; the **Piscids** have a maximum on Oct 13, and the **Taurids** will reach maximum on Nov 5. But both have low rates, with a ZHR of around 10.

Comets

Predictions for comet **103P/Hartley 2** suggest that this comet could be naked eye visible in October reaching a maximum of magnitude 4.4 around Oct 20. At the start of October the comet will pass under Cassiopeia, before heading through Perseus and then Auriga and then Gemini at the end of the month. It will be low in the east in November, and fading, so it will become more difficult. Whilst I have been writing these sky notes at the end of August, the reported brightness has been some three magnitudes fainter than predictions, so if the trend continues, it's likely that it won't reach naked eye visibility. However, comet predictions are

notoriously difficult, so literally, anything could happen.

So please try to observe, and report your observations to the Comet Section Director, Jonathan Shanklin. One other thing to note is that on November 4, the *Deep Impact* spacecraft will make a close approach to Hartley 2. Amateur observers are encouraged to send observations to the science team at the University of Maryland via the website <http://dawn-aop.astro.umd.edu/>

Deep sky

Although many don't look further than M31, M32 and M110, the constellation of Andromeda has many more deep sky objects to discover. **NGC 891** is one of the finest edge-on spiral galaxies, some 30 million light years distant. In a small or moderate scope it appears as a faint streak, but in large scopes the dust lane becomes clear. It is also a good target for imagers.

NGC 404 is a challenging object, not because it is particularly faint, around magnitude 11, but because of its proximity to Mirach, beta Andromedae, which shines at mag 2, with a separation of only 7 arcminutes. To gain a view of this spheroidal galaxy, it's best to place Mirach just out of field, and then the galaxy will pop into view.

Andromeda is also home to the planetary nebula **NGC 7662**, the Blue Snowball, remarkable for its comparatively high brightness (mag 8), and distinctly blue/green hue visible to the eye. Even a small scope will show the 'planetary' nature of this object, but with a large scope there is much structure to be detected. Although not strictly in Andromeda, it is interesting to compare with **M76**, the Little Dumbbell, which is just across the border into Perseus. When star hopping to M76, I prefer to start at 51 And, jump to phi Per, and then it's a short jump northwards to M76. The differences in morphology of planetary nebulae are principally due to the viewing aspect, whether viewing from the top, side or some other orientation of the expanding shell of gas and dust that is ejected by the central star in its later life. Analysis has shown that there are just three types of shell, spherical, elliptical and bipolar, and all the observed forms can be explained by these types and the viewing angle.

NGC 752 is a nice and interesting open cluster. It is best viewed with binoculars or a rich field telescope, perhaps a short focal length refractor with a low power eyepiece. Unlike many open clusters, the stars in NGC 752 are very old (around 1.1 billion years), and have similarities to stars in globular clusters. Old open clusters are rare, because the stars tend to dissipate away from the cluster.

There are also some fine double stars to seek out in Andromeda. **Almach**, gamma And, is a fine yellow/blue pair with magnitude 2.5 and 5.0 components separated by about 10". Also check out **Struve 3050**, where the stars are fairly well matched in brightness around mag 6.5, and separated by 2". **Pi And** is a wide double, some 36" separation, with mag 4 and 7 components, blue and white.

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