

## **Astronomy Talk 12<sup>th</sup> May 2018**

### **Guest Stars, Ancient and Modern**

Guy Hurst, ex-chairman of the BAA came to give this talk. Guy talked about what supernovae are, and also described how the magnitude scale of brightness worked. We first looked back 2000 years, when all people knew was that a new star appeared suddenly and then faded slowly.

The first recorded supernova was in 1006, probably the brightest on record, and visible during the day: it was noted in Switzerland and China. The 1054 SN (the Crab nebula) was noted in China, but not in Europe.

The next 2 came in quick succession: 1572, known as Tycho's star, and 1604, known as Kepler's star. Tycho noted that it showed no parallax, and was therefore beyond the solar system: it had previously been thought that all transient phenomena were local.

Cassiopeia A in 1660 was not recorded although we can see the expanding shell of debris today.

In 1885 a SN called "S And" in the Andromeda galaxy (then thought to be a nebula in the Milky Way) was recorded from Estonia. This was followed by records in 1892 and 1902 by Thomas Anderson, but these were normal novae. Knowing the distance of these local novae and assuming the S And star was the same intrinsic brightness, gave the distance to the Andromeda nebula as 8,000 light years. Later Hubble showed it to be 900,000 light years away, using Cepheid variables. We now know it's about 2.2 million light years distant.

In 1931 Fritz Zwicky and Walter Baade coined the term "Supernova", and more recently very many have been seen in distant galaxies, especially by UK observers.

Lastly Guy talked about "Impostors". Stars that look like they may be exploding but then don't. These are categorised as LBVs (Luminous Blue Variables), e.g. eta Carinae.