



The sky tonight notes for
LAS Observatory Public Open Evening
7.30 pm to 9.30pm (4th October 2018)

The stars of the autumn skies

Welcome to the LAS Observatory for tonight's autumn skies public open evening. The theme of the evening is the stars of the autumn skies` Binoculars show star colours which may be too subtle to see with the unaided eye, look through one of the telescopes available tonight and you will see stars with colours ranging from blue (O type) to white blue, green through yellow to orange and red (M type) stars .All star colours are dependant on the stars surface temperature for example our Sun is an `ordinary` yellow (G type) star. Blue stars are hot young stars, whilst red stars are larger cooler giant stars- so not all stars are the same.

As you become dark-adapted as twilight fades, look overhead to find the first star in our autumn *skies star tour*, high overhead is the white star **Vega** in the constellation of Lyra (The Lyra), shortly followed by the star **Deneb** in the constellation of **Cygnus** (The swan or Northern Cross) and finally lower in the south the star **Altair** in the constellation of Aquila (The Eagle) . These three bright stars form the asterism known as `The Summer Triangle` – Follow the autumn skies star tour with LAS members tonight and spot the named stars and asterisms (**shown bold**).

Look over your right shoulder i.e. to the northwest and see the well know constellation of **Ursa Major** and the **asterism** known as the `The Plough. Early evening *The Plough* is parallel to the horizon early evening in October. Look at the two `pointer` stars on the right hand side of the constellation, **Merek** and **Dubhe**. Follow a line through these two for a distance of five times the separation to find the fainter Pole star `Polaris` in the constellation of **Ursa Minor** (The Little Bear). You are now looking north. The night sky appears to rotate about the Pole star, *Polaris* as the Earth rotates once on its axis in 24 hours, our day.

You now need to look eastward (turn to put Polaris to your left). In the eastern aspect you will see the bright yellow star **Capella** in the constellation of Auriga (The Charioteer) , now rising in the east by mid evening. Below and to the right of Auriga the Pleiades open star cluster (The Seven Sisters), the 45th numbered object in Charles Messer's Catalogue (M45) are visible to the unaided eye. Typically 7 stars but up to 13 stars may be seen with `keen` eyesight, binoculars show the cluster in all its glory with up to 100 fainter stars visible. The rising of the `Seven Sisters` cluster early evening heralds the onset of autumn. Later in the evening the red star Aldebaren in the constellation of Taurus can be seen rising below the Seven Sister's cluster. Aldebaren is a red giant star , its name in medieval times *Oculus Tauri* – The eye of the Bull , but its Arabic name *al-debaran* denotes `The Follower` , following the Seven Sister's across the heavens. The `V` shaped open cluster of the Hyades denotes the head of the Bull and at 140 light years distance is the nearest open cluster to earth is twice the distance of Aldebaren which is in fact a foreground star.

Look to the south to find the bright, unmistakably red colour Planet Mars (Mars was at opposition in late July and now recedes from Earth) the low elevation of the planet as seen from UK this year means that the quality of the view is `poor`. The ringed planet Saturn, seen with the unaided eye as a yellow coloured star located in the constellation of Sagittarius, may be seen telescopically but sets into the tree line early evening.

Higher in the southern aspect, the Square of Pegasus is easily recognised. The constellation of Andromeda seen as a line of stars projecting from the top left star can be used to find the famous Andromeda Galaxy (M31). The short vertical line of three stars points to the faint `fuzzy` patch seen with the unaided eye on clear, moonless evenings, binoculars show it well. The galaxy some 2.5 million light years away is a near neighbour (it's bigger than our own Milky Way galaxy.). Telescopes show the bright nucleus, subtle dark lanes and the companion galaxies M32 and M110. Our own Milky Way galaxy can be seen a faint band of light stretching from Auriga in the north east, through the `π` shaped constellation of Perseus , the `W` shaped constellation of Cassiopeia , overhead through Cygnus , down into Aquila and Sagittarius . Use binoculars and take a look!

The LAS website has more notes and charts and more finder charts and newsletters are available to LAS members. Luton Astronomical Society promoting interest in Astronomy and night sky awareness.

For further information please contact Geoff Mitchell (LAS Secretary)
via the LAS Website www.lutonastrolink.org.uk

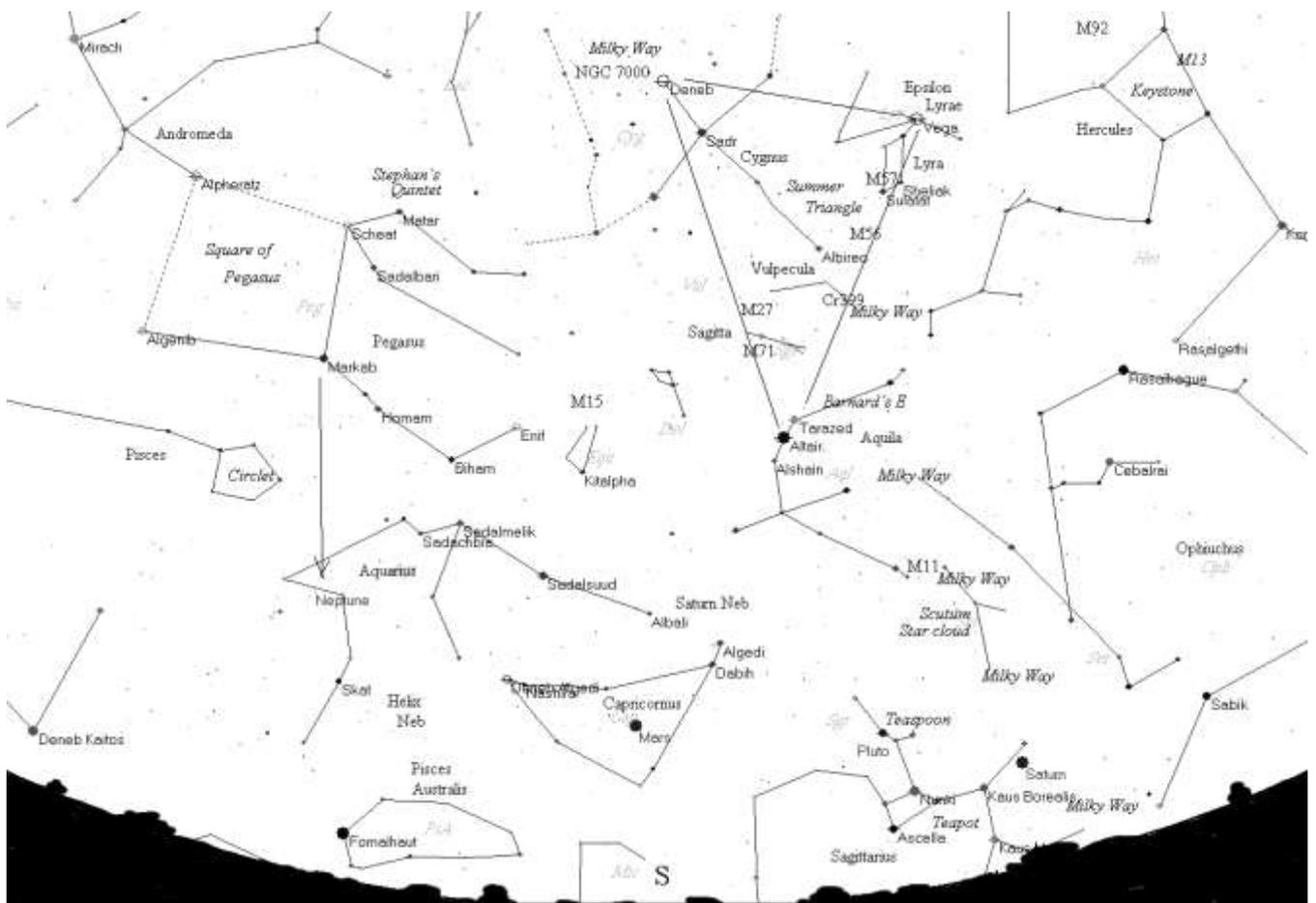


Fig 1 General sky map looking south early evening – Use your binoculars or the LAS telescopes to have a look at some of the stars and star clusters of the autumn skies.

The `Square of Pegasus` and `Summer Triangle` are a useful star asterism for locating other objects in the south aspect. Planet Mars shines brightly low in the south now moved into the constellation of Capricornus. Low in the south west aspect, the ringed planet Saturn may be seen early evening, currently the famous ring system is open at 26° tilt – a classic view of Saturn seen with the telescopes on site tonight.

Planets Uranus and Neptune are also placed in our southern evening skies in autumn – telescopes show each as a tiny disk with the characteristic colour of blue and green respectively.

You may like to keep these notes handy and if you have binoculars at home, why not take look at the colours of some of the principle stars shown on darker moonless nights in coming months.

Luton Astronomical Society (LAS) holds regular indoor meetings at Univ of Bedfordshire, Putteridge Bury doors open from 7 pm, with meeting between 7.30pm until 9pm on the last Thursday each month (Our next meeting will be on Thursday October 25th 2018 and is an informal meeting with a guest speaker Dave Eagle, presenting a talk entitled Comets -, Enigmatic and Beautiful (What did we learn from Comet ISON ?) - All visitors are welcome – so why not come along - see Geoff Mitchell or visit the LAS website www.lutonastrolink.org.uk for more details of our 2018 programme and to book for our forthcoming open evenings, observing evenings and much more astronomical news.

Next LAS public open evening(s), clear skies permitting are planned for Thursday December 6th for viewing the winter night sky, but check the LAS Web site for updates.

We hope that you have enjoyed our open evening tonight *Geoff Mitchell*

Also see the Society for Popular Astronomy (SPA) website as an introduction, especially suited for younger observers or visit the British Astronomical Association (BAA) website for more advanced observers. Popular monthly publications are also available from newsagents and more details on line.

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