Athenaeum Astronomy Association

THE NIGHT SKY NOVEMBER 2019

The year is drawing on and the days are getting noticeably shorter. At the beginning of the month the Sun rises around 7 a.m. GMT and sets around 4.30 p.m. GMT. This gives a day length of around 9 ½ hours. By the end of the month the Sun will rise around 7.40 a.m. GMT and will set around 4 p.m. GMT reducing the day length to around 8 hours 40 minutes. The days are getting shorter as the Sun sinks lower in the sky in preparation for its rendezvous with the Tropic of Capricorn next month.

The Moon

The Moon will be at first quarter on November 4th, full on November 12th and will reach last quarter on the 19th. It will be new again on November 26th.

The Planets

Mercury takes central stage this month as it reaches conjunction with the Sun and, on this occasion, will pass in front of it.

On November 11th at around 12.35 p.m. Mercury will move onto the Sun's disc and move across the Sun reaching mid-transit around 3.20 p.m. Mercury will continue across the Sun but will not complete its transit before the Sun sets at 4.15 in our locality.

Extreme care must be taken to observe this event.

It will require optical aid to observe it but never look through an optical instrument of any kind that is pointing at the Sun. To do so could result in instantaneous and permanent damage to you eye. The only exception to this is if you have an instrument specially designed to view the Sun, the instrument is in good condition and you know what you are doing.

The best way to view the event with a telescope is to project the image of the Sun's disc onto a card or small screen. The telescope can be correctly aligned by using its shadow as a guide. When the telescope is pointing at the Sun its shadow will appear as a circle and the image of the Sun will appear on the screen - assuming you have not left the lens cap on. Some telescopes have lens caps that have an additional cap set into the main lens cap so that you can reduce the aperture of the telescope when observing the Sun. If you use

such an arrangement you still need to project the image and refrain from putting your eye to the telescope.
Finally, as the transit progresses the Sun will get lower in the sky. As it gets towards sunset, the visible light from the Sun will be dimmed. You may be tempted to use a pair of binoculars or some other small instrument to have a quick direct view of the event. Resist the temptation.
Following the transit, Mercury will begin to appear in the morning sky just before sunrise. By 19th November the planet will have pulled away from the Sun far enough to be visible as a thin crescent. It will continue to be visible in the dawn sky until around 10th December. If you intend to view the planet and its movements in the dawn sky, remember that my comments about eye safety still apply.

Venus and Jupiter are both too close to the Sun to be easily visible this month.

Mars will be visible in the dawn sky as it pulls further away from the Sun. It will be in the same part of the sky as Mercury. Between the 22nd and 28th of November it will be above and to the right of Mercury shining at magnitude +1.8.

Saturn sets around 11 p.m. at the beginning of the month and around 10 p.m. at the end. However, it is low down above the horizon so not best placed for viewing.

The Ice Giants Uranus and Neptune are well placed for viewing this month.
Uranus, shining at magnitude + 5.7, is to be found among the stars of Aries in the south, mid evening, at an altitude around 50º. Neptune lies among the stars of Aquarius shining at magnitude +7.8. Like Uranus, it is on view as soon as darkness falls, but is steadily moving towards the Sun and by the end of the month it will set around midnight.

Meteor Showers

There are two meteor showers this month. The Taurid shower has two radiants. The southern Taurids has a radiant about 10º south of the Pleiades star cluster. It is estimated that it will peak at midnight on the night of November 5th and 6th. The northern Taurids peak around 11 p.m. on the night of November 12th and 13th. The radiant is a few degrees to the east of the Pleiades. Unfortunately, this year, the Moon interferes with the view. Only a few meteors per hour are likely to be seen.

Another shower, a little more active than the Taurids, is the Leonids with the radiant in the head of Leo the Lion. The shower peaks on the night of November 17th and 18th and is known for its persistent trains. Again, the Moon will interfere with the view.

Comets

There are a few comets about this month. Perhaps the most interesting is Comet 2017 T2 PanSTARRS. It is passing through Auriga and is currently circumpolar. It will be passing near to the open clusters M36 and M38 which may give good imaging opportunities. During the last week in November it will pass near the bright star Capella. It will remain in Auriga until the end of the month when it will move into Perseus.

That should give you a few things to do until we meet in December!

Clear skies.