



# The Astrophile Newsletter

One Fond of Starlore: An Amateur Astronomer

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## First Lunar Eclipse of 2020 on Jan 10th

The penumbral eclipse of Jan 10 will be the first of 4 lunar eclipses in the year 2020.

On January 10, 2020 the Moon will cross through the penumbral shadow of Earth marking the first of the four Lunar Eclipses and six eclipses in total for the year 2020. The penumbral eclipse will start at 22:37:44 when the Moon will enter the shadow of the Earth. The maximum eclipse will be at 00:40:02 on January 11th. The Moon will leave the shadow of Earth at 02:42:19.

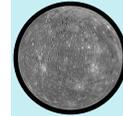
The penumbral eclipses are not that easy to observe since the change in brightness of the Moon is minimal. Photographing the eclipse can reveal the light contract between the penumbral shadow of Earth and the bright sunlight on the surface.

A total of 2 Solar and 4 Lunar eclipses will be occur this year while one of each will not be visible from India, rest all can be seen from India.

## Moon phases and dates

Important phases and dates for Moon to plan your observation

03/01/20	First Quarter	10:15
11/01/20	Full Moon	00:51
17/01/20	Third Quarter	18:28
25/01/20	New Moon	03:12



### Mercury

Mercury will be very close to Sun however shall be visible in the evening hours towards the second half of January. The planet is usually very close to Sun and hence not advised to see unless supervised.



### Venus

Venus will continue to be shining bright in the evening skies. Rising late and setting late as well. The planet will be setting early in the evening in the first quarter while in the second quarter of Jan, it will late evenings.



### Jupiter

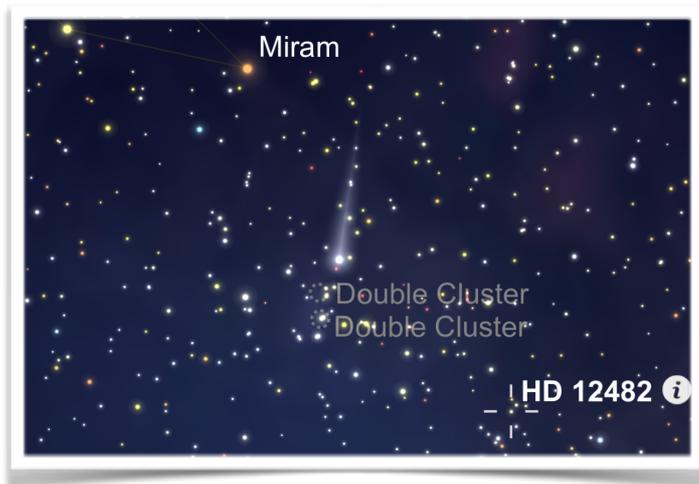
Jupiter will be very close to Sun and hence shall not be attempted to be seen unless supervised. It may lead to permanent damage to your eyes.



### Saturn

Saturn will not be visible in Jan of 2020 as it is very close to Sun and hence shall not be seen unless supervised. The planet will re appear in the morning skies by March 2020.

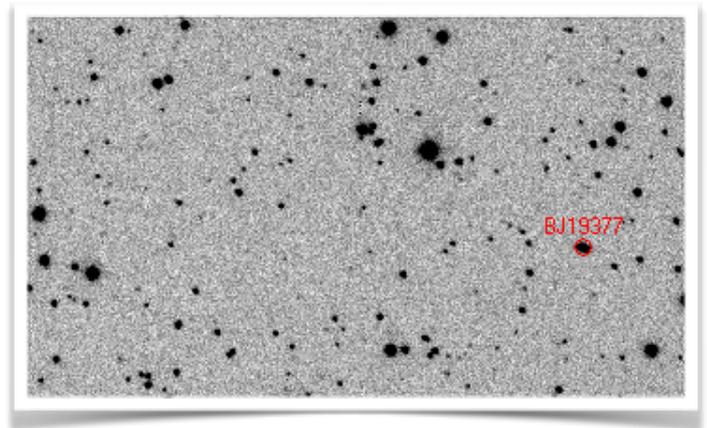
## Comet PANSTARRS C/2017 T2 is visiting the skies



A new comet is wandering our skies this January. Discovered by the PANSTARRS Sky survey telescope systems, in 2017 and designated as T2, the comet had its closest approach to Earth on Sun Dec 29, 2019. However this comet is still bright enough to be seen from rural skies with a small telescope. The tail has been distinguishing and the green tinge as per some images says about the comet alot.

Though one can spot the comet easily in the North direction near the northern constellations, most notable time to observe will be around January 22-29th when the comet will appear to be extremely close to the Double Cluster in the constellation of Perseus. It will be a treat for visual and astrophotographers around the world.

## Search new Asteroids in 2020 with the world



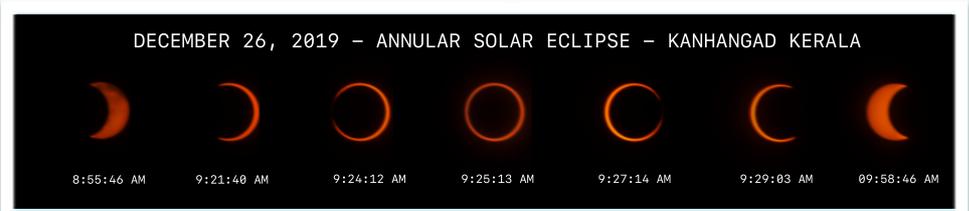
We are back with our very valued astronomy research project of 2019: “ASTROPHILE - INTERNATIONAL ASTEROID SEARCH CAMPAIGN”. Starting from Jan 17th, it will go on for 4 weeks where the students will receive data gathered from PANSTARRS Sky Survey Telescope of their associated observatories from around the world. The students will get trained to use the data and to search for a new rock in the solar system.

The project is aimed for students of grade 9 onwards and inclined towards science and research. To participate in this program, kindly write to us or contact us on the number mentioned on the mailer.

The participating students will get the certificate of participation from the organising agencies including NASA who is the key architect of this project and provide most of the resources. *Let's aim for the Sky High!!*

### ANNULAR SOLAR ECLIPSE 2019

Our team and our guest participants observed the December 26, 2019 Annular Solar Eclipse from Kanhangad Kerala and successfully photographed it (See right -->)



The observation was carried out from a top of the hotel terrace where 7 telescopes and 13 cameras and 37 people along with a giant binoculars were all looking at our Sun which was going in to hiding behind the Moon. The eclipse was mostly clear with a few moments during the initial phases were missed. We were lucky to have the sky cleared before the annularity and observed the Bailey Beads also during the second and third contact.

If your students have observed the eclipse from anywhere in India, or photographed it, We would like to collect their experience and pictures of the eclipse and share with those who missed it. Kindly spread the word around them for sharing it with us at the email mentioned in the letter or in the email.

Astrophile Education Services is planning to organise two expeditions for the upcoming June Eclipse, One will be in India and another in the Gulf. If your school is interested in participating in the eclipse expedition, do write to us for more information.