



The Astrophile Newsletter

One Fond of Starlore: An Amateur Astronomer

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Chandrayaan II to land on Moon on Sept. 7

Chandrayaan II has successfully entered Lunar orbit and now getting in position to send the lander and rover to land

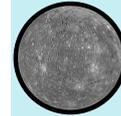
Chandrayaan 2 which was launched from SHAR on July 22, 2019 onboard GSLV-MkIII 'Bahubali' rocket for a 45 day mission to the Moon has successfully entered the Lunar Orbit. The spacecraft is now adjusting altitude and the rover and lander will land on the surface on September 7. Lander will attempt to make a soft landing in a high plain between two craters — Manzinus C and Simpelius N — at a latitude of about 70° South.

While the orbiter will continue to orbit the moon and gather information for One year, the rover has a mission timeline of 1 lunar day or 14 Earth days during which it will travel to 500m on the surface and gather valuable information while performing various experiments.

Moon phases and dates

Important phases and dates for Moon to plan your observation

06/09/19	First Quarter	08:40
14/09/19	Full Moon	10:02
22/09/19	Third Quarter	08:10
28/09/19	New Moon	23:56



Mercury

Mercury will be playing hide and seek this whole month, starting with rising just before the sunrise towards early September to setting just after sunset towards late September, making it very challenging to see.



Venus

Venus will also be transitioning from morning morning skies to evening skies making it difficult to observe this whole month.



Jupiter

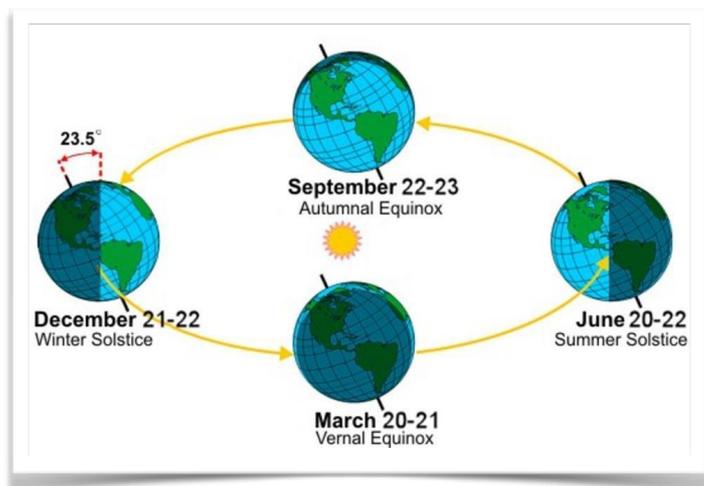
Jupiter will be rising in the afternoon making it easier to locate in Southern direction just after Sunset. It will also be the brightest object in the sky after Moon this September.



Saturn

Saturn will be visible just East of South direction and will be visible pretty much all night before setting an hour before dawn. Saturn will be very close to the constellation of Sagittarius and will appear brighter than most of stars in that area.

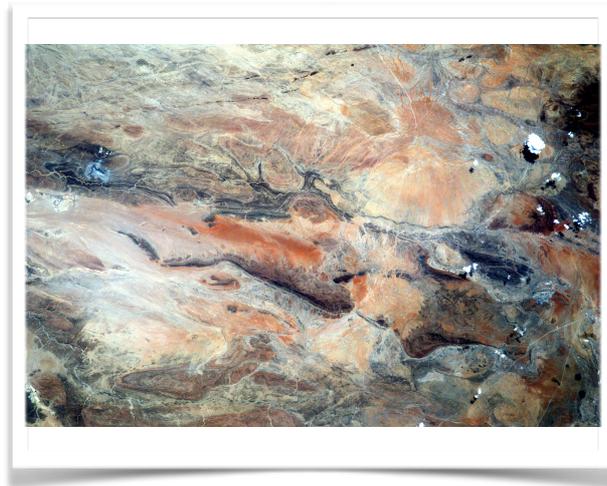
Autumn Equinox on September 23, 2019



The Autumnal Equinox of 2019 will fall on September 23, 2019 at 1:28 PM IST. The Sun at this instant will be exactly over the equator and will then proceed into Southern Hemisphere. This day also marks the end of Summer Season in Northern Hemisphere and beginning of Summers in the Southern Hemisphere.

The annual journey of Sun from North to South and back to North crossing the Earth's equator twice is because of the tilt of the Earth. Due to the 23.5 degree tilt of the Earth's axis, imaginary lines like Tropic of Cancer and Tropic of Capricorn are formed which outlines the maximum and minimum position of Sun at different times in the year. Also on this day, both the poles - North and South will be illuminated.

Take pictures of Earth from Space this September



The fall edition of highly enjoyable yet very informative project for middle school students is starting from September 24-27, 2019. The ISS EarthKAM mission dates for September edition have just been announced.

ISS EarthKAM is a NASA supported project for grade 6-8 students where they will take pictures of Earth from ISS. Once taken, the pictures will be shared with the school so that the students and teachers can use them in classroom to study the changes on Earth due to human interference, natural calamities, and also to understand various geographical features as part of their GEOGRAPHY curriculum. The project is conducted in over 100 countries and annually 10 million students participate. The question is: ARE YOU READY TO OBSERVE?

WHY METEOR SHOWERS ARE IMPORTANT FOR SCIENCE?

Meteor showers are very important in astronomy. For amateurs and beginners meteors are very exciting and beautiful thing to observe. Astrophotographers feel lucky to capture one in their image however for scientist and astronomers, meteor showers bring a lot more opportunity to understand the universe and a lot more work they get to do to unravel the mysteries of the universe.

Meteors are originated from comets and as the comet move around the solar system from outer space, the heat and solar wind melt the comet and dust particles are left behind as tails. These dust particles when enter the Earth's atmosphere and burn, they leave the colours based on which their chemical composition is identified. Since comets are located on the outer edge of the solar system termed as "Oort Cloud", it is impossible to alter the chemical composition of the place by and thing we experience in near or far space. This ensures that astronomers are studying the presence of elements at the time the solar system was formed.

During meteor showers when there are more meteors associated with a particular comet, based on their assessment, it is easy to investigate and identify the chemical composition of these comets and hence picking up a target for next space mission to comet becomes very easy for astronomers and scientists.

Whether for science or to enjoy beauty, you should always look up and look for meteors as much as you can.

