

The Night Sky

Mars Shines Brightly Overhead

Jupiter and Saturn can be spotted shining in the southwestern sky after evening twilight ends. At the beginning of November, the pair are separated by only 5.2 degrees of arc. As the month progresses, the separation between these two giant gas planets gets less and less finishing the month with only a 2.3-degree separation. The separation continues to decrease in December until they experience a very close conjunction on the winter solstice, December 21st. Conjunctions of Jupiter and Saturn occur every 20 years, so this is the year to go out and observe our solar system's two largest planets.

Having just experiencing a relatively close opposition with Earth in mid-October, Mars remains a showpiece shining brightly in the constellation of Pisces all night. Now that the Earth is leaving Mars behind as they both orbit the Sun, the red planet fades in brightness from Jupiter-level brightness to the brightness of Sirius, the brightest star in the night sky. If you have access to a decent telescope, train it on Mars to spot the dark markings on the planet's surface and the polar ice cap. Note however that this ice cap is not frozen water, but instead, frozen carbon dioxide. CO₂ is the most abundant molecule in the atmosphere of Mars. On the night before Thanksgiving, a bright waxing gibbous Moon will lie just below Mars – it should make for a beautiful sight!

In the early morning sky, our innermost planet Mercury joins brilliant Venus shining above the east-southeast horizon an hour before sunrise. Fainter Mercury will lie to the lower left of Venus. On November 12th and 13th, a thin crescent Moon moves from just above Venus to just above Mercury. For those of you who have never seen Mercury, this is your chance to spot it since you can use bright Venus to help you find it. Mercury starts the month relatively faint in the morning twilight, but brightens significantly by mid-month.

Full Moons in November are known as the Full Beaver Moon by native Americans. It is called that since beavers are actively preparing for winter during this month. This Full Beaver Moon occurs at 4:30 a.m. EST on the last day of the month, November 30th. Daylight Savings Time ends in the early morning of November 1st. Make sure you “fall back” one hour with your clocks before you go to bed on Halloween.

The ETSU Powell Observatory open houses are on hiatus until further notice. Once the current health crisis is over, the schedule for our Astronomy open houses can be found on the web at <https://www.etsu.edu/cas/physics/observatory/default.php>.

The ETSU Planetarium Shows are also on hiatus until further notice. Once ETSU returns to normal operations, the schedule for the ETSU Planetarium Shows will be posted on the web at <https://www.etsu.edu/cas/physics/outreach/planetarium.php>.

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