The Night Sky

Last Month to Catch Venus in the Evening Sky

At the beginning of September, Venus hangs low above the southwestern horizon one hour after sunset. By the end of the month Venus will set only 45 minutes after the sun. Venus will reach its greatest brilliancy by the end of the month, which is useful since it will be in the bright evening twilight at this time. If you have a decent set of binoculars, point them at Venus during the last week of the month, you should be able to see the thin crescent of Venus.

Moving eastward along the ecliptic on the sky, we next encounter bright Jupiter in the southwestern sky one hour after sunset. Jupiter and Venus reach their minimum separation on the evenings of September 27-29 at 14 degrees of arc. Venus will be to the lower right of Jupiter and very much brighter than Jupiter. However, Venus will be very low above the southwestern horizon one-half hour after sunset.

Continuing eastward, we next encounter the ringed-planet Saturn, hanging low in the south-southwestern sky an hour after sunset. Throughout the month, Saturn lies very close to a stellar nursery, the Lagoon Nebula, in the constellation of Sagittarius. Saturn sets a little after 1 a.m. EDT at the beginning of the month, but by the end of September, it sets a little after 11 p.m.

Mars continues to shine brightly in the southern sky – still brighter than Jupiter. In space, Mars reaches its perihelion point (i.e., closest to the sun) in its orbit, 1.38 Astronomical Units (note that 1 A.U. is the average distance the earth orbits the sun), on September 16th.

Mercury will be tough to spot hanging low above the eastern horizon 30 minutes before sunrise during the first week of the month. Sharp-eyed observers might be able to spot a thin crescent moon just above Mercury on the night of September 8th. Mercury is lost from view by September 11th and reaches superior conjunction with the sun (i.e., back side of the sun) on September 30th.

The sun crosses the autumnal equinox on the celestial sphere at 9:54 p.m. EDT on September 22nd, marking the start of the fall season. When the sun is located at one of the equinoxes, it lies directly over the earth's equator. The moon will be at full phase at 10:53 p.m. EDT on September 24th. Full moons that occur in late September are known as the "Full Harvest Moon." The Full Harvest Moon is the full moon that falls closest to the autumnal equinox.

The first free public astronomy open house at the ETSU Powell Observatory of this season will occur on Saturday, September 15th from 8 to 10 p.m. At these open houses, the public can view objects in the sky through telescopes and hear talks by faculty of the Physics and Astronomy Department. Note that the open houses are cancelled if the sky is cloudy. Further information about these open houses and directions to the observatory can be found on the web at https://www.etsu.edu/cas/physics/observatory/default.php.

For those of you who would rather explore the night sky indoors, the first of the monthly planetarium shows for this season begin on September 20th at 7:00 p.m. at the ETSU Planetarium in Hutcheson Hall. A location map of the Planetarium on the ETSU campus can be found on the web at https://www.etsu.edu/cas/physics/outreach/planetarium.php.

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