The Night Sky

Second Supermoon of the Year

In January 2019, we experienced a "supermoon" total lunar eclipse. A supermoon is typically defined by the full moon occurring within one day of the moon being at perigee – the closest point in the moon's orbit about the earth. For this supermoon on February 19th at 10:53 a.m. EST, there will be a 7 hour difference between the moon's full phase and perigee.

Only one bright planet remains in the evening sky during the first half of the month, the red-planet Mars. Mars continues its rapid movement in the night sky moving from the constellation of Pisces into Aries. Mars continues to fade in brightness as the separation between the earth and Mars increases as they both orbit the sun. Mars sets around 11 p.m. EST at the beginning of the month. On February 13th Mars has a close conjunction with the 7th planet from the sun, Uranus, being only a degree of arc apart from each other. Uranus is too faint to be seen with the naked-eye, so you will need binoculars to spot this far away planet. Uranus has a greenish tint to it and will be to the lower right of the much brighter Mars.

During the last two weeks of February, Mercury pops up above the southeast horizon in the constellation of Pisces. Our innermost planet will be bright enough to spot in the evening twilight, though binoculars will improve this detection. Mercury does not set until one-and-a-half hours after the sun on February 26th – let's hope for a clear sky to catch this elusive planet during this time.

The early morning sky is where most of the planetary action is at. During the first week of the month, starting from the southeastern horizon an hour before sunrise, Saturn, Venus, and Jupiter form a gradual arc on the sky above the "teapot" of the Sagittarius, with Venus being the brightest of these 3 planets. One will easily be able to note Venus's motion along the background stars this month. The separation between Venus and Saturn rapidly decreases during the first two weeks of February resulting in a close conjunction between these two planets on the morning of February 18th. On this date, these two planets will be separated by only one-degree of arc on the sky. Following this date, Venus hangs lower than Saturn above the southeastern horizon.

During the last two weeks of February, the soft glow of the zodiac light should be visible from dark sites in the evening after twilight ends. Look towards the west at this time for a hazy pyramid of faint light stretching up through Taurus to Gemini, tilted slightly to the left. The zodiac light results from interplanetary dust in the inner solar system scattering light from the sun.

The next free public astronomy open house at the ETSU Powell Observatory will occur on Saturday, February 9th, 2019 starting at 8 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. Make sure you dress warmly since you will be standing outside to look through our telescopes. 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, a planetarium show will be given on February 21th 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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