

# The Night Sky

## Venus Returns to the Evening Sky

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The month of July 2016 will have every planet in the solar system making an appearance in the night sky. Jupiter continues to dominate the western sky all evening, although with each evening, it sinks lower and lower with respect to the western horizon. The length of time between sunset and Jupiter-set shrinks from 3½ hours to less than 2 hours over this mid-summer month. During the last half of the month, Jupiter will be joined by Mercury and Venus sitting above the west-northwest horizon, however both Mercury and Venus will be very low in the sky in the bright twilight. As such, make sure you have an unobstructed western horizon to catch a glimpse of these two planets. Some keen-eyed observers might be able to catch bright Venus as early as mid-month with binoculars. As you spot these planets near the western horizon during the last week of July, Jupiter will be the highest, followed by Mercury, then Venus.

In the southern sky during the evening hours, Mars and Saturn continue their dance with the bright red supergiant star Antares. Saturn, Mars, and Antares continue to lie fairly close to each other on the sky throughout the month, forming a bright triangle of celestial objects. Keep an eye on this region throughout the month as Mars continuously changes its position in this triangle on a nightly basis. As the month progresses, you will note the brightness of Mars fading as the earth races ahead of Mars as they orbit the sun.

Although not visible without a telescope, Pluto is at opposition to the sun on July 7<sup>th</sup>. It is located in the Teaspoon asterism, northeast of the Teapot of Sagittarius. On the nights of June 26<sup>th</sup> and 27<sup>th</sup>, Pluto lies just to the south of Pi Sagittarii – note however that one will need a telescope of at least 14-inches in diameter to spot this very faint celestial object. Finally, Neptune and Uranus can be spotted in the eastern sky just before dawn, with Neptune residing in the constellation of Aquarius and Uranus in Pisces. One will need a telescope to catch these two planets as well.

The earth reaches aphelion (the farthest point in its orbit about the sun) around noon EDT on July 4<sup>th</sup>. At this time, it lies 94,512,904 miles from the sun, only 3% farther than at its closest point to the sun in January. The waxing moon shines below Jupiter on July 8<sup>th</sup>, then Mars on the 14<sup>th</sup>, followed by Saturn on the 15<sup>th</sup>. July's Full Moon occurs at 6:56 p.m. EDT on July 19<sup>th</sup>. Native Americans often called the July Full Moon as the Full Buck Moon since it is in this month when the new antlers of buck deer push out of their foreheads.

The ETSU Powell Observatory open houses are on hiatus until September. Later this summer, the 2016-2017 schedule for our Astronomy open houses can be found on the web at <http://www.etsu.edu/cas/physics/observatory/default.aspx>.

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<http://www.etsu.edu/cas/physics/> by selecting the Public Outreach pull down menu at the top of this web page.