

The Night Sky

Venus Returns to the Evening Sky

Earth's sister planet, Venus, returns to the evening sky during the second half of September. Venus went through superior conjunction (i.e., in back of the sun) on August 14th as it moves from the morning sky to the evening sky. However, you will have to look quickly ½ hour after sunset along the western horizon to catch this bright planet in the evening twilight.

Jupiter and Saturn, the two large gas-giants planets of our solar system, continue to shine brightly in the southern sky during the evening. Though fading a bit during this month, the king of the planets, Jupiter, remains the brightest "star-like" object in this part of the sky. It is easy to spot Jupiter. Once you do, look to its lower right to spot the red supergiant star Antares in the constellation of Scorpius. Fainter Saturn still sits to the upper-left of the Teapot asterism of Sagittarius. The moon will visit these two gas giants from September 5th through September 8th, passing just to the north of Jupiter early on September 6th, and to the south of Saturn late on September 7th.

The innermost planet to the sun, Mercury, may be spotted above the western horizon within an hour after sunset towards the end of the month, but will be difficult to spot in the bright evening twilight. Mars is in conjunction with the sun on September 2nd and will be hidden in the solar glare all month.

The sun crosses the autumnal equinox on the celestial sphere at 3:50 a.m. EDT on September 23rd, 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 12:32 a.m. EDT on September 14th. 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. This Full Moon will be smaller and fainter than usual since this Full Moon occurs when the moon is at apogee (i.e., its farthest distance) in its orbit about the earth.

The first free public astronomy open house at the ETSU Powell Observatory of this season will occur on Saturday, September 7th 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 19th 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>.

This month's Night Sky was written by Dr. Donald G. Luttermoser, Chair of the Department of Physics and Astronomy at ETSU. He can be reached at lutter@etsu.edu. Any students wishing to pursue a

career in Physics or Astronomy are encouraged to contact him at this email address. Astronomy-related information for the public, including a link to the ETSU Powell Observatory, can be found at <http://www.etsu.edu/cas/physics/> by selecting the Public Outreach pull down menu at the top of this web page.