

The Night Sky

Venus and Saturn Conjunction

As the month of December 2019 progresses, Venus slowly becomes more and more noticeable above the southwest horizon following sunset. The brightest planet in the sky will be easy to spot one-hour after sunset shining brightly in the evening twilight. On the night of December 2nd, Saturn, Venus, and Jupiter will be evenly spaced low in the southwest sky 45 minutes after sunset. However, you will need an unobstructed view of the southwest horizon to spot Jupiter slightly above the horizon in the bright twilight. After this date, Jupiter will be extremely difficult to spot in the solar glare. In addition, watch the separation between Saturn and Venus shrink until they pass each other in the evening of December 13th, a very nice conjunction between these two planets. After this date, Saturn sinks lower and lower until it disappears from view in the solar glare by the end of the year.

Once true darkness sets in, you won't be able to spot any more naked-eye planets until 3 hours before sunrise, when the red-planet Mars rises in the southeast in the constellation of Libra. During the first week of December, you should also be able to spot the innermost planet of the solar system, Mercury, hovering below Mars above the southeast horizon one hour before sunrise.

With luck, some of you might be able to spot a few bright Geminid meteors from December 12th through the 16th after midnight. Unfortunately, the moon will just be past full moon which will brighten the sky enough to hide the fainter Geminids.

The moon will be at full phase at 12:12 a.m. EST on December 12th. Full moons in December are known as the "Full Cold Moon" by Native Americans for obvious reasons. The sun reaches the winter solstice at 11:19 p.m. EST on December 21st ushering in the season of winter. On this date, we have the fewest hours of daylight in the northern hemisphere.

The monthly astronomy open house at the ETSU Powell Observatory are on hiatus over the holiday season. They will return on February 1st, 2020. 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 next planetarium show occurs on December 5th 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.