The Night Sky

Venus Dazzles after Sunset

At dusk the planet Venus is dazzling bright, low in the southwest sky in October. Venus will set 1¾ hours after the sun at the beginning of the month, and as the month progresses, set later and later, setting 2½ hours after the sun by month's end. On October 16th, Venus will have a close conjunction to the red supergiant star Antares, where Antares will be to the lower left of Venus. Saturn should still be visible without optical aid in early October in the western twilight after sunset, but by mid-month, one will need binoculars to see it as the earth moves on the other side of the sun with respect to Saturn. For the first part of the month, Mercury will be lower in the evening sky than Saturn, but you will definitely need binoculars to see it in the bright twilight. Should you have an unobstructed view of the western horizon, you may be lucky to catch a slender crescent moon between Venus and Saturn on the evening of October 7th and above Venus on October 8th.

Jupiter rises around midnight on October 1st and continues to rise earlier each night, when Jupiter-rise will take place around 10 p.m. by Halloween. Much dimmer Mars rises 4 to 5 hours before sunrise in the constellation of Leo throughout the month of October. On the morning of October 15th, Mars will experience a close conjunction with the bright star Regulus. On this date, Mars will be just a degree in arc separated from this brightest star in Leo. Coincidentally one day later, Comet C/2012 S1 ISON will make a tight triangle with Mars and Regulus. However, one will need binoculars to see this comet since it is still below naked-eye visibility. Comet ISON will be very close in space to Mars during the first part of October making its closest approach to Mars of 6.5 million miles (about 26 times the distance of the moon from the Earth) on October 1st. NASA will be attempting to capture photos of Comet ISON with the Mars surface rover Curiosity and from space with the Mars Reconnaissance Orbiter during this Martian close approach. We will have more on Comet ISON in next month's *The Night Sky* article.

The moon will be full the night of October 18th. This month's full moon experiences a penumbral lunar eclipse. The moon will glide across the pale outer fringe (penumbra) of earth's shadow, never reaching the shadow's dark umbra. The eclipse will be deepest around 7:50 p.m., when the moon shining in the eastern sky. Look for subtle shading on the southern third of the moon's face. You may detect lesser traces of penumbral shading for about 45 minutes before and after that time.

The next free public astronomy open houses at the ETSU Powell Observatory will occur on Saturday, October 12th 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 http://www.etsu.edu/cas/physics/observatory/default.aspx.

This month's Night Sky was written by Dr. Donald G. Luttermoser, Chair of the Department of Physics and Astronomy. He can be reached at lutter@mail.etsu.edu. Astronomy-related information for the

public, including a link to the ETSU Powell Observatory, can be found at http://www.etsu.edu/cas/physics/outreach/astronomy.aspx.