

The Night Sky

Jupiter Returns to the Evening Sky

After residing in the morning sky for the past half year, dazzling Jupiter makes its appearance once again in the evening sky. At the beginning of the month, Jupiter rises around 10 p.m. in the northeast, and by month's end at 8 p.m. Jupiter is in the constellation of Taurus, very near to the red giant star Aldebaran, an Arabic name which means "the follower" since it follows the Pleiades star cluster in the night sky. Coincidentally, the two most massive asteroids, Ceres and Vesta, currently lie very close to Jupiter in the sky, however, one will need optical aid to view these celestial neighbors. NASA has a spacecraft called Dawn that has been in orbit around Vesta from July 2011 through last month taking detailed photographs and making various measurements of this asteroid. The Dawn spacecraft is now in route to Ceres, the largest asteroid in the solar system and now called a "dwarf" planet. It will go into orbit around Ceres in February 2015 – the first time humans will see this "first" asteroid up close.

While Jupiter is putting on a great show in the eastern evening sky, Mars continues its rapid movement against the background stars in the western evening sky. Reddish Mars will be in the vicinity of the bright red supergiant star Antares in the constellation of Scorpius throughout the month. On the nights of October 16th through the 18th, planet Mercury can be seen low close to the western horizon 30 minutes after sunset. However you will need to find a place where there are no obstructions, such as trees or houses, on the western horizon. Venus shines as the brilliant "Morning Star" rising 3½ hours prior to the sun. Saturn resides behind the sun during this month and will not be observable.

The moon will be full the night of October 29th, a few days prior to Halloween. As such, should the sky be clear of Halloween night, children should be clearly visible by a nearly full moon in the evening sky as they "trick-or-treat". Try looking for the "witch on her broomstick" on this nearly full moon which one can imagine from the adjacent Maria Serenitatis (head and hat), Tranquillitatis (body and feet), and Nectaris (the broom's bristles), with Mare Fecunditatis serving as her cape – ooh, spooky!

One might spot some meteors in the night sky too this month. The Taurids are relatively slow and graceful. They originate from dust particles liberated from the short-period Comet Encke and last throughout October, November, and the first part of December. The Taurids are noted for producing bright fireballs. Back in 2005, numerous Halloween fireballs made news around the world. In addition, the Orionid meteor shower peaks from about October 20th through the 24th. These meteors move fast and result from dust particles liberated from Comet Halley.

Should the sky be clear the night of October 20th, yours truly will present a lecture at the free public astronomy open house at the ETSU Powell Observatory 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>.