

# The Night Sky

## A Close Miss

On November 8<sup>th</sup> and 9<sup>th</sup> a very small asteroid (about 1,300 feet in diameter) will zoom past the earth just inside the moon's orbit. Unfortunately (or fortunately depending on your point of view), this asteroid is so small that it will be far too faint to be seen with the naked eye despite making such a close pass to our planet. When near its closest approach to the earth at 6:23 p.m. EST on the 8<sup>th</sup>, it will be a mere 201,600 miles from earth. Then at 2:13 a.m. EST on November 9<sup>th</sup> that same night, it will pass only 148,700 miles from the moon. If one had a large enough telescope, one could watch this object pass by as it travels through the constellations of Ophiuchus, Aquila, and Pegasus. This asteroid was recently discovered on December 28, 2005 by Robert McMillan of the Spacewatch Program of the University of Arizona in Tucson, AZ. Calculations of this asteroid's orbit show that it passed by the earth at even a closer distance in 1976. This really brings home the reason for scanning the skies for near-earth asteroids!

Meanwhile Comet Elenin, which was discussed in last month's Night Sky article, was a bust. As this comet made its way in the inner solar system as it approached the sun, it virtually disintegrated and did not reach the brightness that was expected. This often happens to comets, which are nothing more than dirty snowballs. All is not lost for comet viewing! Another comet will be just barely visible to the naked eye throughout November and December. Comet Garradd will slowly be moving northward in the constellation of Hercules and will be best viewed with a good pair of binoculars. Throughout November, Hercules will be in the western sky just after dusk.

After spending the past year in the morning skies, the planet Venus now makes its reappearance in the evening skies after sunset. During the first half of November, Venus will be accompanied by the planet Mercury in the evening skies. You will need to find an unobstructed western horizon to see these two planets one-half hour after sunset. On November 11<sup>th</sup>, a compact grouping of Venus (highest), Mercury, and the red supergiant star Antares (lowest of the three) can be seen just above the western horizon 30 minutes after sunset.

During the late evenings in November, the brightest object in the sky is the planet Jupiter, the largest planet in the solar system. Jupiter was just at opposition (point on the sky opposite to the sun) on October 29<sup>th</sup>. On that date, Jupiter was just rising in the east as the sun was setting in the west.

Reddish Mars rises around 1 a.m. daylight-savings time at the beginning of November. Throughout the month, it rises a few minutes earlier each day until it rises around 11:30 p.m. by month's end. Saturn can be seen in the mornings, rising about one hour before the sun at the beginning of the month and around 3:30 a.m. by the end of the month.

November's full moon — known in folklore as the beaver or frost moon — occurs on the 10<sup>th</sup> at 3:16 p.m. EST. The day prior to this, the nearly full moon shines in the eastern sky just below Jupiter. As the moon continues to orbit the earth during this month, a slender crescent moon will appear close to the planet Venus in the evening twilight on November 26<sup>th</sup>, the day after new moon.

The next free public astronomy open house at the ETSU Powell Observatory will occur on Saturday, November 5<sup>th</sup> from 8:00 to 10:00 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.

---

This month's Night Sky was written by Dr. Donald G. Luttermoser, Chair, Department of Physics and Astronomy. He can be reached at [lutter@etsu.edu](mailto:lutter@etsu.edu). Astronomy-related information for the public, including a link to the ETSU astronomy open houses, can be found at <http://www.etsu.edu/physics/astronomy.htm>.