The Night Sky

Will Comet ISON be the Comet of the Century?

There has been much discussion about Comet ISON since its discovery in September 2012 from photos taken with the International Scientific Optical Network (ISON) telescope in Russia. When discovered, this comet was quite bright for its distance from the sun. Due to this and the fact that its orbital elements are similar to the Great Comet of 1680, there were early predictions that this comet might be a "comet of the century." Unfortunately, Comet ISON has not brighten as many had hoped as it fell into the inner solar system. On October 16th, I went out in the early morning to search for Comet ISON when it was close in the sky to Mars and the star Regulus in Leo. I could not see it with my naked eye, or with my 7x35 mm binoculars. However, when I trained my 20x80 mm binoculars on that region of the sky, I could just barely see the faint glow of this comet. Throughout November, Comet ISON races from Leo across Virgo and Libra into Scorpius. It will pass half of a degree south of beta Virginis on November 7th. This comet will be between Mercury and the bright star Spica on November 19th. Following this event, it will be due south of Mercury on November 22nd in the early morning sky, and then be southeast of Saturn and Mercury from November 24th through the 26th. Comet ISON will make its closest approach to the sun on Thanksgiving Day, November 28th and will pass within a solar diameter of the sun. It is quite possible that the tidal forces from the sun might break apart this comet when it makes this close approach. Whether or not this comet breaks apart will dictate how bright this comet will be during the first few weeks of December. Next month's Night Sky article will have more on viewing this comet when this comet should be at its brightest, although unfortunately, it may not get very bright.

Planet Venus continues putting on a great show as it dominates low in the southwestern evening sky. Venus is at greatest eastern elongation from the sun on November 1st, 47 degrees from sun. As viewed through a telescope, it range in phase from 50% (half phase) at the beginning of the month to 31% (crescent phase) at the end of the month. The waxing crescent moon will be to the upper right of Venus on November 6th.

At the beginning of the month, Jupiter rises around 10 p.m. in the northeast, and by month's end it will rise around 7 p.m. Jupiter is in the constellation of Gemini, about as far north as it can get on the celestial sphere. Should you get a chance to view Jupiter through a telescope, it appears very large in the eyepiece at 100 power. Its atmospheric belts are easy to spot, as is the four Galilean moons of Jupiter. These are called the "Galilean" moons since Galileo was the first to spot them in 1609 when he first pointed a telescope to the heavens.

Mars rises at 2:30 a.m. on November 1st and then by 1 a.m. by the end of the month. It shows a substantial increase in brightens this month, moving from Leo to Virgo, not far from beta Virginis at the end of the month.

Besides Comet ISON, other solar system objects will be visible in November during the early morning hours. Mercury will put on its best morning appearance of 2013 in the later part of this month. Saturn will be directly in back of the sun on November 6th, however by month's end, it will become visible shortly before sunrise. Saturn and Mercury will be close together in the sky on November 25th and 26th,

low above the eastern horizon, one half-hour before sunrise. While out viewing these planets in the early morning, one might be able to catch a few meteors of the Taurid meteor shower which should be visible all month. Finally in the morning sky before twilight begins, one might be able to see the zodiac light sticking up from the eastern horizon from November 2nd through the 15th. This band of light is caused by dust scattering sunlight in the inner solar system.

The moon will be full in the early morning of November 17th. According to folklore, the November full moon is known as the beaver or frost moon. Unfortunately, the Leonid shower peaks on that date which means we are unlikely to see many Leonids in the bright moonlit sky. Finally, Daylight-Savings Time ends at 2 a.m. on November 3rd – make sure you move your clocks back by one hour.

Should the sky be clear the night of November 9th, there will be a 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.

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