The Night Sky

Venus and Saturn Have a Close Encounter

Over the past month and a half, the evening sky has been devoid of bright planets to view. However as the New Year commences, Mercury will be visible about 10 degrees above the southwestern horizon 30 minutes after sunset. One will need a clear western horizon to see this planet in the bright twilight. A little later in the evening, the king of the planets, Jupiter, will rise in the east at about 10:30 p.m. at the beginning of January. However by the end of the month, Jupiter will rise around 8:30 p.m. Throughout the month, Jupiter slowly brightens as it approaches its opposition with the sun in early March. Jupiter is currently in Leo just south of Denebola, the second brightest star in this constellation. Jupiter is very easy to spot since it will be the brightest point source of light in this part of the sky.

As the night progresses, the next planet to rise is Mars which rises around 1:30 a.m. on New Year's Day and a little more than half an hour earlier as the month ends. The red planet continues to brighten during this first month of the year. The little red planet will put on quite a show in May when it will make its closest approach to earth in the last ten years.

The early morning sky is when most of the celestial excitement will take place. During the first week of January, the gap between Venus and Saturn dramatically decreases as they approach to a very close planetary conjunction on January 9th. In the morning on this date, these two planets will be less than a half of a degree apart from each other! Venus will be the brighter of the two planets. Try to get up a few hours before sunrise on this date and look to the southeast. These two planets will be just to the upper-left of the bright red supergiant star Antares. A few days prior to this conjunction, the crescent moon will also pose with these planets on the mornings of January 6th and 7th.

During the last week of January, Mercury will make an appearance in the morning sky. It will be visible to the lower left of the much brighter Venus. The earth is at perihelion in its orbit about the sun on January 2nd. At this closest point to the sun, our home is at a distance of 98% of its average distance from our star.

We have two additional unique celestial events that take place this month. The Quadrantids meteor shower is expected to be very rich this year. This shower should peak at 3 a.m. on the morning of January 4th. The shower's radiant point is in the obsolete constellation Quadrans Muralis off of the handle of the Big Dipper between the constellations of Boötes and Draco. One might see up to 200 meteors per hour at this time. On the evening of January 19th, the moon will occult (i.e., pass in front) of the bright red giant star Aldebaran in Taurus. The dark side of the moon will make contact with this star at 9:20 p.m. on this date and this star will reappear from the bright side of the moon about an hour later.

The free public astronomy open houses at the ETSU Powell Observatory take a hiatus over the holiday break. They will resume on February 13, 2016. 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.php .

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