The Night Sky

Four Bright Planets Grace the Evening Sky

August 2018 will see the four brightest planets gracing the evening sky. As soon as it gets dark enough to spot the brightest stars in the sky, look towards the western horizon to see the brightest of the planets, Venus, hanging low in the sky an hour after sunset. Venus actually reaches greatest eastern elongation from the sun on August 17th, but since the angle of the ecliptic (i.e., the projection of the earth's orbit on the sky) is very shallow with respect to the horizon this time of year, Venus will not be very high in the sky and sets one and a half hours after the sun at mid-month. On August 31st, Venus will lie just below Spica, the brightest star in the constellation of Virgo. Unfortunately, this pair will only be 10-degrees above the southwest horizon one-half hour after sunset. Venus will get progressively brighter throughout the month as it starts to move between the earth and the sun in its orbit.

Moving eastward along the ecliptic on the sky, we next encounter bright Jupiter in the southwest sky one hour after sunset. The separation between Jupiter and Venus has been shrinking throughout the summer, but we won't get a chance to see a conjunction between these two bright planets since Venus will be lost in the sun's glare by the time Jupiter catches up to Venus.

Continuing eastward, we next encounter the ringed-planet Saturn, hanging low in the south-southwestern sky an hour after sunset. Throughout the month, Saturn lies very close to a stellar nursery, the Lagoon Nebula, in the constellation of Sagittarius. Saturn dims a bit this month as the earth pulls away from it as they both orbit the sun.

As we move towards the east, it is easy to spot brilliant Mars. Mars was just at opposition on July 27th and reached its closest point to the earth since 2003 on July 31st. Due to these facts, Mars is a very bright reddish-looking 'star-like' object on the night sky. Mars will be visible virtually all night during the first part of August. The 'red planet' will remain brighter than Jupiter all month long. If you get the chance to look at Mars through a telescope, don't hesitate for this opportunity. Seeing surface features on Mars is usually very difficult in a small telescope due to this planet's small size. However, with this close conjunction in late July, one should be able to spot the bigger dark and bright features on this planetary surface. Mars is currently undergoing a planet-wide dust storm, which often happens when Mars is near its perihelion point (closest to the sun) which Mars is currently at in its orbit. Once this storm subsides, the surface features should become visible. Let's hope this dust storm doesn't last very long.

During the predawn hours during the last week of August, sharp-eyed people may be able to spot our innermost planet Mercury hanging low above the eastern horizon 45 minutes before sunrise. Mercury is relatively bright, so you should be able to spot it in the morning twilight assuming you have an unobstructed eastern horizon.

The annual Perseid meteor shower takes place during the beginning of the third week of August, peaking on the nights of August 12th and 13th. In eastern Tennessee, the peak actually occurs during evening of the 12th – unfortunately, the constellation of Perseus will not have risen yet. However come

2 a.m. EDT on the 13th, the Perseids should put on quite a show since the moon will not interfere with the darkness of the night sky this year. Note that the members of the Perseids shower can be spotted a week before and after these dates streaking through the sky. One typically starts to see Perseids from about 10 p.m. through sunrise the next morning, though you see the most meteors per hour from 2 a.m. to about 1 hour before sunrise. You should expect to see a Perseid every couple of minutes, on average, from 2 a.m. onward on the morning of August 13th. The best way to view meteors is to lie back on a reclining lawn chair and keep bright lights out of your field of view. You'll get the best luck spotting these meteors by being patient as you continually look up.

The moon will be at full phase at 7:56 a.m. EDT on August 26th. Native Americans in the Great Lakes region called the full moon in August the Full Sturgeon Moon since this type of fish was most easily caught in fresh water lakes during this time of year. In addition, some tribes called the August full moon the Full Red Moon since the moon appears very reddish as it rises in the hazy nights of August.

The ETSU Powell Observatory open houses are on hiatus until September. Later this summer, the 2018-2019 schedule for our Astronomy open houses can be found on the web at http://www.etsu.edu/cas/physics/observatory/default.aspx .

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