

The Night Sky

A Rare Observing Opportunity for Venus

March 2017 marks an extraordinary month for observing the planets. Venus makes a rare passage from the evening sky to the morning sky the last week of the month, passing 8 degrees north of the sun in the evening of March 24th and the morning of March 25th. This month, Venus is as far north of the ecliptic (the sun's path on the sky) as it can get. As a result, from our latitude it should be possible to spot this bright planet on both sides of the sun during the last two weeks of March – a very rare spectacle! At the beginning of the month, Venus is 32 degrees above the western horizon shining at its brightest magnitude and setting some 2½ hours after sunset. As the days pass in March, Venus drops rapidly in altitude in the evening sky and dims significantly as it approaches inferior conjunction with the sun on the 25th. The apparent size of Venus grows so large during the month that some with good eyesight should be able to make out the crescent of Venus with the naked eye!

Mercury puts on its own show in the evening sky and has its best apparition of the year for us this month. After passing superior conjunction with the sun on March 7th, Mercury climbs into view around March 15th, just above the west horizon. As Venus is heading down, Mercury is heading upward with respect to the horizon. However because Venus is so far north of the ecliptic, the closest Mercury will get to Venus is 8.5 degrees as they pass each other. This occurs on March 18th when they will both be 5 degrees above the western horizon 30 minutes after sunset. By the end of the month, bright Mercury should be easy to spot above the western horizon 45 minutes after sunset.

Mars continues to reside in the western sky during the evening. The red planet should be easy to spot to the far upper left of Mercury and Venus at mid-month. On the nights of March 29th and 30th, a thin waning crescent moon will be visible to left of Mars and Mercury making for a very pretty site.

After its long absence from the evening sky, the king of the planets Jupiter finally returns. As March opens, Jupiter rises around 9 p.m. EST. By the end of the month, Jupiter rises shortly after sunset. Jupiter is nearing opposition, which occurs on April 7th, as such, Jupiter is near peak brightness – only Venus and the moon (when visible) will appear brighter than Jupiter in the March evening sky.

We now must wait to well after midnight for our next planet to rise – the ringed planet Saturn. At the beginning of the month, Saturn rises around 2:40 a.m. EST. Saturn has spent the past few years in the vicinity of the red supergiant star Antares. It takes a little less than 30 years for Saturn to completely circle the sky, and over the next few years, Saturn gradually pulls away from Antares. By the end of March, Saturn rises around 1:45 a.m. EDT.

The moon will be at full phase on March 12th at 10:54 a.m. EDT. Earlier on this day, Standard Time ends and Daylight Savings Time begins at 2 a.m. – make sure to move your clocks forward by one hour before you go to bed on the 11th. Spring returns at 6:29 a.m. EDT on March 20th, when the sun crosses the vernal equinox on the sky. The vernal equinox is the point on the sky where the sun crosses the celestial equator moving from the southern hemisphere into the northern hemisphere of the celestial sphere.

The next free public astronomy open house at the ETSU Powell Observatory will occur on Saturday, April 1st 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. Make sure you dress warmly since you will be standing outside to look through our telescopes. 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 at ETSU. He can be reached at lutter@mail.etsu.edu. Any students wishing to pursue a career in Physics or Astronomy are encouraged to contact him at this email address. Astronomy-related information for the public, including a link to the ETSU Powell Observatory, can be found at <http://www.etsu.edu/cas/physics/> by selecting the Public Outreach pull down menu at the top of this web page.