

# The Night Sky

## Jupiter at Opposition

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Mars and Mercury hang low in the west-northwest sky throughout most of the month in the evening twilight. At the beginning of the month, Mercury sits to the lower left of Mars one-half hour after sunset, with Mercury being the brighter of the two. However the evening twilight is quite bright during this time, so it may be difficult to spot these two planets. As the month progresses, Mars continually sinks as Mercury get higher and higher for a given time in the evening, though Mercury's brightness fades throughout the month. The separation between these two planets is at a minimum on the evening of June 18<sup>th</sup>, when the two planets are less than a quarter degree of arc apart from each other. During the following week, watch Mercury get higher and higher with respect to Mars and the horizon. You may also spot two stars just to the right of the Mercury-Mars pair, these are the two brightest stars in Gemini, Pollux and Castor. One will need an unobstructed western horizon in order to spot these celestial objects in the bright twilight.

The "King of the Planets," Jupiter, reaches opposition the night of June 10<sup>th</sup>. Opposition is the point on the sky that is opposite to the sun's position on the sky. On this date, Jupiter rises above the southeastern horizon just as the sun sets on the northwestern horizon. As such, Jupiter will be visible all night long throughout the month of June. During this time Jupiter will be the brightest it has been in five years. Unfortunately, as is always the case for planetary oppositions in June, Jupiter will be very low in the southern sky residing in the southern portion of the constellation of Ophiuchus about 10-degrees east of the red supergiant star Antares.

The ringed-planet Saturn rises 2½ hours after sunset at the beginning of the month. Saturn continues to brighten throughout the month as it approaches its July opposition. Like Jupiter, Saturn sits very low in the southern sky when it's at its highest, sitting to the left of the Sagittarius teapot asterism. Saturn is at its highest point in the sky several hours after midnight this month. Saturn's rings are almost at their maximum tilt as seen from Earth making for a spectacular view through a telescope.

As Venus approaches superior conjunction with the sun in August, it rises less than an hour before sunrise and will be virtually impossible to spot in the early morning twilight. Some of you might be able to spot it with binoculars popping up above the northeastern horizon if it is unobstructed at your location.

The sun arrives at the summer solstice at 11:54 a.m. EDT on June 21<sup>st</sup>, marking the beginning of summer in the northern hemisphere. The summer solstice is the northern-most point the sun gets in the sky as the earth orbits our star. The moon will be at full phase on June 17<sup>th</sup> at 4:31 a.m. EDT. June full moons were refer to as the "Full Strawberry Moon" by early Native American since strawberries are typically harvested during this month.

The ETSU Powell Observatory open houses are on hiatus until September. Later this summer, the 2019-2020 schedule for our Astronomy open houses can be found on the web at <https://www.etsu.edu/cas/physics/observatory/default.php>. In addition, the monthly planetarium

shows will be on hiatus until September as well. Check the Planetarium web site at <https://www.etsu.edu/cas/physics/outreach/planetarium.php> in August to get the schedule for the 2019-2020 Academic Year.

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