



Chippewa Valley Astronomy Update Friday Aug 19, 2022

Figure caption: This unrivaled image of Saturn is from the Hubble Space Telescope in 2020. This year we view the planet slightly more edge-on to the rings. This image is from the Outer Planets Atmospheres Legacy (OPAL) project. OPAL is investigating the atmospheric dynamics of our solar system's gas giant planets. Image credit: NASA, ESA, A. Simon, M.H. Wong, and the OPAL Team

Saturn Graces the Evening Sky Again

By Lauren Likkel

Finally planets are back in the evening sky! Saturn is now rising early enough that I have seen it with my own eyes. Saturn rises around sunset now, and if you just wait a couple of hours it will be high enough in the sky to see it even from locations with trees toward the east. Through a telescope, Saturn changes from a fairly bright star to a gem with rings around it. If you want to borrow a small telescope, check one out from Beaver Creek Reserve (free for members).

I recently saw Saturn through a large telescope at Hobbs Observatory at Beaver Creek Reserve, where public viewing is offered after dark on clear Saturdays (May – October). It was cool - I hadn't seen Saturn since last fall. Some of you stayed up really late, or crawled out of bed, to see the "lineup" of Saturn, Jupiter, Mars and Venus in the pre-dawn sky last month. I didn't. But I knew that I would eventually see planets in the evening again.

On August 14, 2022, Saturn reached "opposition", the alignment of Sun-Earth-Saturn that happens almost once per year, occurring when Earth catches up to slower moving Saturn in their orbits around the sun. In opposition, Saturn is in the opposite direction to the sun, so rises when the sun sets and reaches its high point at midnight. The cool thing about a planet being in opposition is that it is close to the Earth. That means that right now Saturn is the brightest (and looks a bit larger through a telescope) than it usually does. Saturn sometimes is completely on the other side of the sun, but right now we are passing right by the planet. At opposition, the light from Saturn takes "only" about an hour and 15

minutes to get to us. When we are on the other side of the sun from Saturn, it takes an extra 16 minutes for the light to reach us. Saturn is so far from the sun that it orbits so slowly that it takes almost 30 years to orbit the sun once. In comparison Earth zips around in a year, catching up for the next Saturn opposition in just a year plus 2 weeks.

In a few weeks, Jupiter will share the evening sky with Saturn. Jupiter reaches opposition September 26, 2022. Last year opposition was August 19, but since it is closer to the sun than Saturn it moves faster and it takes a year and a few weeks to catch up to it. Since it is closer to the sun than Saturn (the light travel time is “only” half an hour), at opposition it is quite bright – and a great view in a telescope. I’m hoping for some clear skies out at Hobbs Observatory on Saturday nights this summer to see Saturn, and also in October for a good look at Jupiter as well.

-- Lauren Likkel is a member of the Chippewa Valley Astronomical Society