

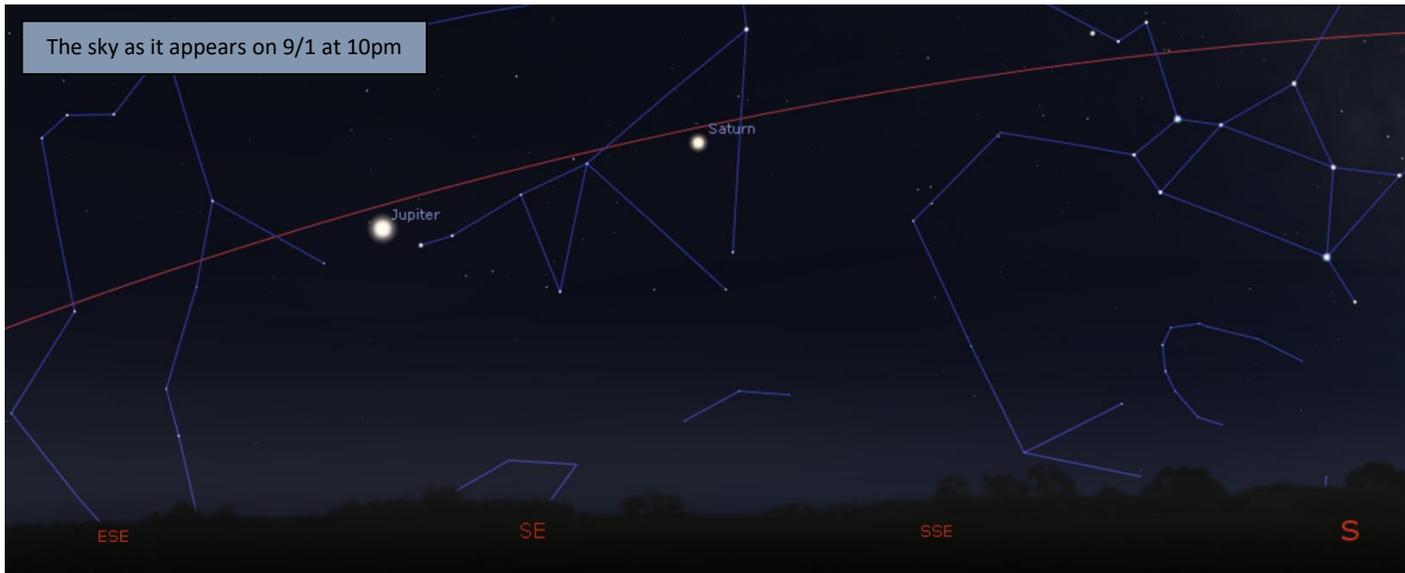


Lake Erie Nature & Science ASTRONOMY CLUB

No. 26 / September 2021

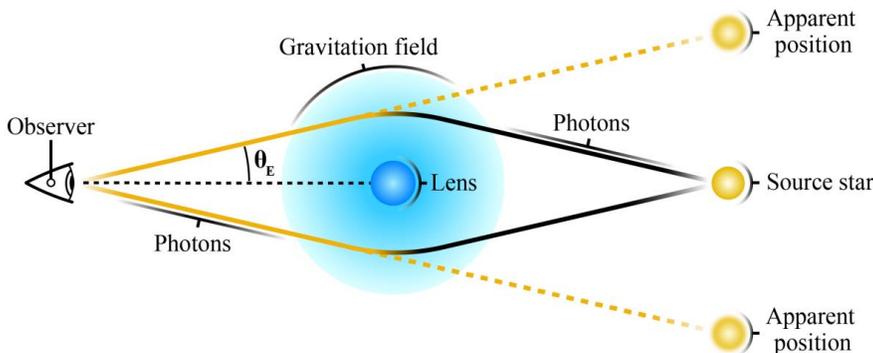
That busy time of year...

As the summer season winds down, we all find ourselves getting ready for the school year or preparing for the cooler seasons to come. During this potentially hectic time, we are fortunate that is also a great time to pause and look up at the evening skies after sunset. With Jupiter and Saturn in perfect viewing position, this is a chance to practice being mindful and enjoy one of nature's great and free spectacles. - Bill



News and Current Events – What is going on in the world of space and astronomy

Evidence Of Rogue Planets Found – Astronomers, scanning data from the now defunct Kepler Space Telescope, have found evidence of 4 rogue planets. Rogue planets are planets floating free in space and not gravitationally bound to any star. These planets can currently only be detected by using gravitational micro-lensing. This technique detects the distortion of light from a distant star due to the effects of a gravitational field from an object in front of it.



Astro-tainment – Space and Media

This month we reviewed the movie *"The Midnight Sky"* directed by George Clooney
A lone scientist in the Arctic races to contact a crew of astronauts returning home to a mysterious global catastrophe.

While this is a decent sci-fi film, it focuses more on the human mind's "inner-space" than outer space. I enjoyed it when I was watching it, but it may not stick with you for too long. In my opinion, not one to buy but absolutely worth a rent.



Wrap your brain around this... - Mind blowing facts

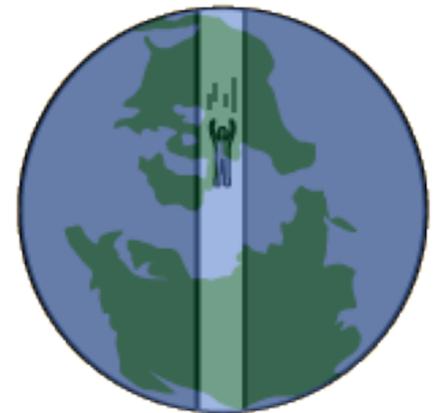
We've all seen pictures or video of astronauts floating around on the International Space Station. Would it surprise you to know that gravity on the ISS is only 10% less than on Earth? Objects in the space station are essentially falling **around** the Earth.



Objects in Earth orbit are traveling at such a high velocity that they are "falling" at the same rate as the curvature of the Earth. If you fired a cannon, the cannonball would curve downward and land some distance away.

If you fired it faster, it would land even further away. If you fired the cannonball at orbital velocity, or 17,500 mph, the ball would essentially fall around the Earth and be in orbit.

Mental Exercise – If you dug a hole all the way through the Earth from Bay Village, it would emerge about 1,000 miles west of Australia. If you then jumped into this hole, assuming there was no air present, it would take you about 42 minutes to reach the other side of the planet. You would accelerate to a velocity of 17,900 mph at the center of the Earth and gradually slow as you got the other side. You would eventually slow to a stop and be pulled back into the hole by gravity. This would continue as you were drawn back towards the center from either end of the hole. This back and forth motion would continue essentially forever.



Become a member of the Astronomy Club!

Benefits include:

- Monthly Meetings
- Telescope Night Presentations
- Movie Nights
- Telescope Training and Loan Program

\$60/year per family



Upcoming Events

Astronomy Club Meeting
September 15th @ 6:30 pm

Telescope Night (Viewing)
September 18th @ 8:30 pm

To become a member, please call 440-871-2900 or visit www.lensc.org/visit/planetarium/