

ASTROGATOR

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August 2023

Grand Strand Astronomy Club Monthly Events

General Membership Meeting:
Every 1st Thursday @ 7:00 pm
Meeting: VIA Zoom.

Please see email or Facebook for link

Observing Session: August 19 @ 8:00 pm
Location: Hampton Plantation
Gates open @ 6:00 pm



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Grand Strand Astronomer's Social Media

[Grand Strand Astronomers Web Site](#)

[Grand Stand Astronomers Facebook](#)

Header photograp: NASA releases ultra-HD video of the sun | GMA

Enlightenments From Your Editors

Welcome to our sixth newsletter. We sure hope you enjoy our publication and find it informative. We enjoy putting it together. Being a young club, we are still expanding our services and hitting our groove. So bear with us as we work out what we can offer.

Even though we are a young club, we've been able to do outreaches at Myrtle Beach State Park, Brookgreen Garden, and Playcard Environmental Learning Center. These were well attended and the public appreciated sharing our telescopes with them. We are also partnering with other clubs to get Hampton Plantation on the books as the first official dark sky location in South Carolina. Partnering with other clubs is a great way to learn the ins and outs of operating a 501(c)(3) club like ours. One thing we know is that amateur astronomers are pretty much the same all across the county. Ours is a well-practiced hobby that can keep people busy for many years. And all clubs seem united in sharing astronomy with the public.

Be sure to attend our next meeting on August 3. It is a joint meeting with the Low Country Stargazers that we'll connect with via Zoom. The Charleston Planetarium Society will be presenting their plans for a planetarium. A link will be sent out before the meeting.

This fall we have a few more outreach opportunities. We look forward to having these since our goal is promoting amateur astronomy in the Grand Strand. So watch for the announcements on Facebook, our website, or emails; and plan to attend.

Call For Volunteers

Grand Strand Astronomy Club is looking for volunteers to help with the social media platforms such as Facebook, YouTube and Twitter if the need arises. Presently Facebook needs a new face lift and be brought up to present time activities.

Our website can also use some TLC and someone responsible to keep it updated with club activities and astronomy related items.

The more members who volunteer, makes the club that more efficient and easier to maintain and more time for everyone to view the heavens!

If anyone would like to help in these categories, please contact Ian Hewitt at the email address below.

This newsletter needs contributions of articles related to astronomy. Send articles to t.m.kelly349@gmail.com. Please provide name of author of article to protect GSASTRO.

Comments and suggestions are welcomed. Send comments to gsastro.org/contact/.

Clear skies to all and remember to always look up!

Leadership

Executive Officer

Ian Hewitt

Treasurer

John DeFreitas

Secretary

Gerald Drake

Social Media Coordinator

Denise Wright

Newsletter Editors

Gerald Drake

Tim Kelly

Grand Strand Astronomy Club New Members

Grand Stard Astronomy Club would like to welcome Tomas M. Bagdas and Terry Bradshaw. Please join us on the next Zoom meeting. Please see the front page of this newsletter. A link will be sent to as the date approaches,

July 6, 2023 Meeting Recap

G. Drake

The meeting was held on July 3, from 7:00 to 8:30 via Zoom. Since there was a light attendance due to the July 4th holiday, there was no set agenda. Ian lead the group in an open discussion. The meeting was not streamed to YouTube this time.

Ian shared some images from an amateur astronomer that has been making videos of high proper motion stars for over three decades. The group talked about some collimation tools and Chris showed a video and some software that could help with collimation. Plans are being made to hold a face to face workshop on collimation in early fall.

Tim asked a few questions about collimation and stated that he believes his Celestron Nexstar 8SE may require a slight collimation. During his experimenting with taking photos of the moon, the moon is always slightly out of focus. Tim showed an interest in the collimation workshop.

Bright new comet discovered zooming toward the sun could outshine the stars next year

<https://www.livescience.com/bright-new-comet-discovered-zooming-toward-the-sun-could-outshine-the-stars-next-year>

The comet, known as C/2023 A3 (Tsuchinshan-ATLAS), was first noted by the Asteroid Terrestrial-impact Last Alert System (ATLAS) telescope project in South Africa on Feb. 22, according to the Minor Planet Center. Astronomers at the Purple Mountain Observatory in China also discovered the comet independently on Jan. 9, so both observatories are cited in the comet's full name. Skywatchers around the world have since observed it in new and old images, with the earliest detection found in images taken by a wide-field camera on a telescope at Palomar Observatory in California on Dec. 12, 2022.

Currently, C/2023 A3 is between Saturn and Jupiter, according to EarthSky. It's traveling at a zippy 180,610 mph (290,664 km/h) and is likely to make its closest approach to Earth on Oct. 13, 2024.

August Calendar of Celestial Events

<http://www.seasky.org/astronomy/astronomy-calendar-2023.html>

August 1 - Full Moon, Supermoon. The Moon will be located opposite the Earth from the Sun and will be fully illuminated as seen from Earth. This phase occurs at 18:33 UTC. This full moon was known by early Native American tribes as the Sturgeon Moon because the large sturgeon fish of the Great Lakes and other major lakes were more easily caught at this time of year. This moon has also been known as the Green Corn Moon and the Grain Moon. This is also the second of four supermoons for 2023. The Moon will be near its closest approach to the Earth and may look slightly larger and brighter than usual.

August 10 - Mercury at Greatest Eastern Elongation. The planet Mercury reaches greatest eastern elongation of 27.4 degrees from the Sun. This is the best time to view Mercury since it will be at its highest point above the horizon in the evening sky. Look for the planet low in the western sky just after sunset.

August 12, 13 - Perseids Meteor Shower. The Perseids is one of the best meteor showers to observe, producing up to 60 meteors per hour at its peak. It is produced by comet Swift-Tuttle, which was discovered in 1862. The Perseids are famous for producing a large number of bright meteors. The shower runs annually from July 17 to August 24. It peaks this year on the night of August 12 and the morning of August 13. The crescent moon should not be too much of a problem this year. Skies should still be dark enough for a good show. Best viewing will be from a dark location after midnight. Meteors will radiate from the constellation Perseus, but can appear anywhere in the sky.

August 16 - New Moon. The Moon will be located on the same side of the Earth as the Sun and will not be visible in the night sky. This phase occurs at 09:39 UTC. This is the best time of the month to observe faint objects such as galaxies and star clusters because there is no moonlight to interfere.

August 24 - Moon Occults Antares. The Moon passes in front of the bright star Antares in the constellation Scorpius. This rare event will happen at 10:29 PM (02:29 UTC) and will be visible in the central US and northern Florida. (Occultation Map and Details)

August 27 - Saturn at Opposition. The ringed planet will be at its closest approach to Earth and its face will be fully illuminated by the Sun. It will be brighter than any other time of the year and will be visible all night long. This is the best time to view and photograph Saturn and its moons. A medium-sized or larger telescope will allow you to see Saturn's rings and a few of its brightest moons.

August 31 - Full Moon, Supermoon, Blue Moon. The Moon will be located on the opposite side of the Earth from the Sun and its face will be fully illuminated. This phase occurs at 01:37 UTC. This is also the third of four supermoons for 2023. The Moon will be near its closest approach to the Earth and may look slightly larger and brighter than usual. Since this is the second full moon in the same month, it is sometimes referred to as a blue moon.

August Star Parties

<http://www.seasky.org/astronomy/astronomy-events.html>

Table Mountain Star Party

August 8 - 12, 2023

Host: Table Mountain Star Party Association

Location: Eden Valley Ranch near Oroville, Washington

Website: <http://www.tmspa.com/index.html>

The Table Mountain Star Party is an annual gathering of people interested in astronomy and its many related topics. Most people attending are amateur astronomers who enjoy the great viewing which the mountain provides, however, anyone with an interest or curiosity is welcome to register and enjoy the experience. Programming is provided for everyone from the seasoned astronomer to the beginning novice. We also provide well organized, fun and educational programming for the student. Each year our event is held in July or August (usually July) depending on the weather and the phase of the moon. Make your plans to attend and enjoy this event with hundreds of great telescopes and related equipment. Bring your telescope, or if you don't have one, most astronomers are happy to share the view and show off their equipment.

Julian Starfest

Dates TBD

Host: San Diego Astronomy Association (SDAA)

Location: Menghini Winery in Julian, California

Website: <http://www.julianstarfest.com>

Julian Starfest, an astronomy exhibition and public star party, is scheduled for the 21st through the 24th of August at the Menghini Winery in Julian, CA. Julian, at 4,200', offers some of the darkest skies in Southern California and the Menghini Winery offers a beautiful venue. Starfest, now a joint effort between the San Diego Astronomy Association and the town of Julian, will only get better as the years pass.

Stellafane Convention

August 17 - 20, 2023

Host: Springfield Telescope Makers

Location: Springfield, Vermont

Website: <http://stellafane.org/convention/>

The Stellafane Convention is a gathering of amateur telescope makers. The Convention was started in 1926 to give amateur telescope makers an opportunity to gather to show off their creations and teach each other telescope making and mirror-grinding techniques. All telescopes, commercial and homemade are welcome. If you have made your own telescope, we strongly encourage you to display it in the telescope fields near the Stellafane Clubhouse. If you wish, you can enter your homemade telescope in the mechanical and/or optical competition. There are also mirror-grinding and telescope-making demonstrations, technical lectures on telescope making and the presentation of awards for telescope design and craftsmanship. Vendor displays and the retail sale of commercial products are not permitted.

Almost Heaven Star Party

August 18 - 22, 2023

Host: Northern Virginia Astronomy Club

Location: Spruce Knob, West Virginia

Website: <https://www.ahsp.org/>

The Almost Heaven Star Party will be held Friday - Tuesday, August 18 - 22, 2023, at the Experience Learning in Spruce Knob, WV. AHSP is sponsored by NOVAC and is operated on a cost-recovery basis; the club expects to expend all fees received on the event itself. Spruce Knob is one of the premier dark-sky sites in the East! Experience Learning provides an outstanding observing location as well as civilized amenities like hot showers, meal service and internet access.

Observing at Hemlock Crossing Observatory in Michigan

By G. Drake

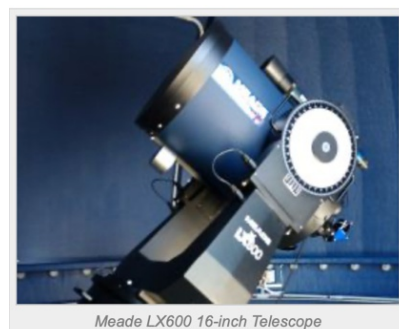
While traveling to Michigan in July, I was able to do some brief observing at Hemlock Crossing Observatory located in the Hemlock Crossing County Park in West Michigan. The observing event was held on July 8, and hosted by the Shoreline Amateur Astronomical Association (SAAA). The members greeted me and welcomed me to their event. They were glad I brought a telescope to share with the public. I think about 25 people came out, so it was a good event. The sky was a bit hazy on the horizon due to the Canadian wildfires, but otherwise clear of clouds.



Their main attraction is their observatory which houses a Mead 16" Schmidt-Cassegrain. This observatory was completed in 2022. The completion of the project was made possible with support from members of the SAAA, Ottawa County Parks & Recreation Commission, Friends of Ottawa County Parks, the Ottawa County Parks Foundation, and members of their community who made financial contributions, large and small, to support it. The observatory is operated by the club and opened to the public every Friday for observing and once a month (every second Saturday of the month) for a special session specifically for Hemlock. In the summer months they do observing. From September through May, they do presentations at the Hemlock Nature Center.

For this night, they focused the Meade LX600 on the Ring Nebula located in the constellation Lyre. There was a long line waiting to get to look in the eyepiece, but it was worth the wait. Very clear and awesome view.

SAAA is the only club in Michigan that operates both an observatory and a planetarium. They have an excellent working relationship with Hemlock Crossing County Park. They even convinced them to install street lights that turn red on command for their observing sessions.





The nights in western Michigan come slow. It was about 10:30 before I could see enough stars to do an alignment. Since I had a long drive the next day, I had to clean up and leave at 11:00. Not a lot of observing time, but it was still great to get out and see another club in action with a good public presence. Maybe on another trip, I'll get to spend more time with them.

Notice the picture showing my little telescope and the observatory with the red street lights in the background. I was impressed that they could turn the lights red for their observing sessions.

Hope you enjoyed this. Feel free to share your observing experiences.

The Eskey System: A Planetary Address Framework based on Quadrangles and Low Slope Routes

By Megan Eskey

Try to imagine a serpentine network of rover tracks on the Moon from the standpoint of an advanced human species a million years from now. With no wind or atmosphere on the Moon, they will be like the Mayan or Egyptian pyramids, relics of an ancient civilization that was advanced enough to do something spectacular and lasting. Earth will be unrecognizable then, with most of our architectural structures demolished, but the planetary roads will remain untouched and unchanged. There will be only one system of lunar roads but many more lunar missions over the next 1000 millennia. Although we may not have immediate need for the roads, they will. How often do we get the opportunity to design and build something that will still be around 1000 millennia later? These are the first roads in space.

NASA has signaled that, through the Artemis program, the Moon will be the first off-Earth site for sustainable surface exploration. Building a sustainable presence on the Moon requires more than rockets. For a sustained lunar presence, robust infrastructure will need to be built on the Moon that provides better thermal, radiation, and micrometeorite protection.

Development plans are following a “live off the land” approach by prioritizing the use of in-situ/native materials found on the Moon. From landing pads to habitats, these collective efforts are driven by the need to make humanity a spacefaring civilization.

We have already proven our ability to make maps of the Moon and to leave behind rover tracks. My proposal is to do it collectively and at scale to design and build a system of lunar roads. In situ manufacturing will be a long experiment before we can do anything practically useful and permanent. Let's not wait. Planetary cartography should be the zeitgeist of the decade, not the pandemic, not Covid-19.

I was the former NASA Ames Web Manager, and have a background in Artificial Intelligence (AI) and Open Government. I recently defined the earliest example of a planetary address framework and named the first 32 roads in space.

The complete list of all 32 planetary roads can be found on the Reloquence website. Here are the first three:

- 1 Wingo Epps Circle, Schwarzschild, LAC-01, The Moon
- 3 Heller Eskey Highway, Schwarzschild, LAC-01, The Moon
- 11 Neil Armstrong Bridge, Mare Tranquilitas, LAC-60, The Moon

Note that there is some debate about the provisional and approved names of the lunar quadrangles. What is confusing is that Schwarzschild crater is in LAC-06 on the far side of the moon, but also in LQ1 along with Peary. It may be a good time to revisit the lunar quad nomenclature. The Gazetteer for Planetary Nomenclature was unsure who was responsible at USGS. My reference was Astropedia.

A Tale of Two Very Lonely Telescopes:

Gerald Drake



Did you know our club has telescopes available for loan? They are Dobsonians that were donated to the club when we first started. These are available for club members to use at no charge. All you have to do is take care of them and return them if someone else wants to borrow one.

The first one pictured is an Orion XT 8. It's in great shape. After using this for several weeks, I ended up buying one just like it. It gives beautiful views of the moon, planets, and galaxies. Comes with accessories that include a 2X Barlow, 25mm eyepiece, 9mm eyepiece, and laser collimator tool.



The other one is an Orion Skyquest XT 10 with Orion's IntelliScope computerized object locator. It includes more than 14,000 objects in its database so you'll be able to locate those dim galaxies. Should be hours of fun. Accessories are included.

Both of these are begging to be used. Send us an email if you're interested in borrowing one.

Retrogrades

<https://cafeastrology.com/retrogrades.html>

Current & Upcoming Retrogrades and Stations – Dates 2023 & 2024

When do retrogrades occur, and in what sign? The following tables shows the planets (Mercury, Venus, Mars, Jupiter, Saturn, Uranus, Neptune, and Pluto) and their astrological retrograde cycles by date and sign, from retrograde to direct.

A station is defined from the point of view of the Earth; it is the point when a planet appears to stop moving in the sky. The planet then appears to move slowly in the opposite direction; at this point, the planet is considered Stationary Retrograde. Similarly, once the planet makes a Station (stops) and begins to go forward again, this is called Stationary Direct.

The following shows current and upcoming Retrograde cycles of the planets. Note that the Sun and the Moon never retrograde. Dates given reveal not only the Retrograde periods, but also the Retrograde zones or shadows.

This page gives dates and times when a planet enters the retrograde zone/shadow, is stationary retrograde, is stationary direct, and leaves the retrograde zone/shadow. Retrograde zones are longer periods of time and encompass the entire period of the zodiac degrees affected by the retrograde.

Times are Eastern Time.

Pluto Retrograde Cycle in 2023

Pluto enters retrograde zone/shadow on January 8, 2023, at 27° Capricorn 53'
Pluto stations and turns retrograde on May 1, 2023, at 0° Aquarius 22' Rx
Pluto stations and turns direct on October 10, 2023, at 27° Capricorn 53'
Pluto leaves retrograde zone/shadow on February 1, 2024, at 0° Aquarius 22'

Saturn Retrograde Cycle in 2023

Saturn enters retrograde zone/shadow on March 11, 2023, at 0° Pisces 31'
Saturn stations and turns retrograde on June 17, 2023 at 7° Pisces 13' Rx
Saturn stations and turns direct on November 4, 2023, at 0° Pisces 31'D
Saturn leaves retrograde zone/shadow on February 7, 2024, at 7° Pisces 13'

Neptune Retrograde Cycle 2023

Neptune enters the Retrograde Zone on March 9, 2023, at 24° Pisces 53'
Neptune stations and turns retrograde on June 30, 2023, at 27° Pisces 41' Rx
Neptune stations and turns direct on December 6, 2023, at 24° Pisces 53'
Neptune leaves the Retrograde Zone on March 25, 2024, at 27° Pisces 41'

Venus Retrograde July to September 2023

On June 19, 2023, Venus enters the Retrograde Zone (pre-retrograde shadow) at 12° Leo 12'
On July 22, 2023, Venus stations and turns retrograde at 28° Leo 36' Rx
On September 3, 2023, Venus stations and turns direct at 12° Leo 12'
On October 7, 2023, Venus leaves

Mercury Retrograde Cycle: August to September 2023

On August 3, 2023, Mercury enters the Retrograde Zone (pre-retrograde shadow) at 8° Virgo 00'
On August 23, 2023, Mercury stations and turns retrograde at 21° Virgo 51' Rx
On September 15, 2023, Mercury stations and turns direct at 8° Virgo 00'
On September 30, 2023, Mercury leaves the Retrograde Zone (post-retrograde shadow) at 21° Virgo 51'

Uranus Retrograde Cycle 2023

Uranus enters retrograde zone/shadow on May 12, 2023, at 19° Taurus 05'
Uranus stations and turns retrograde on August 28, 2023, at 23° Taurus 05' Rx
Uranus stations and turns direct on January 27, 2024, at 19° Taurus 05'
Uranus leaves retrograde zone/shadow on May 12, 2024, at 23° Taurus 05'

Jupiter Retrograde Cycle 2023

Jupiter enters retrograde zone/shadow on June 11, 2023, at 5° Taurus 35'
Jupiter stations and turns retrograde on September 4, 2023, at 15° Taurus 35' Rx
Jupiter stations and turns direct on December 30, 2023, at 5° Taurus 35' D
Jupiter leaves retrograde zone/shadow on March 23, 2024, at 15° Taurus 35'

Mercury Retrograde December 2023-January 2024

On November 25, 2023, Mercury enters the Retrograde Zone at 22° Sagittarius 11'
On December 13, 2023, Mercury stations and turns retrograde at 8° Capricorn 29' Rx
On January 1, 2024, Mercury stations and turns direct at 22° Sagittarius 11' D
On January 20, 2024, Mercury leaves the Retrograde Zone at 8° Capricorn 29'

Mercury Retrograde in Aries: April 1-25, 2024

On March 18, 2024, Mercury enters the Retrograde Zone at 15° Aries 59'
On April 1, 2024, Mercury stations and turns retrograde at 27° Aries 13' Rx
On April 25, 2024, Mercury stations and turns direct at 15° Aries 59' D
On May 13, 2024, Mercury leaves the Retrograde Zone at 27° Aries 13'

Telescope For Sale

For sale: This is a great deal! Celestron NexStar 8SE computerized telescope. This telescope was purchased from Adorama in December 2021 and delivered in May 2022. Upon delivery, the telescope was set up on its tripod in my house, but because of chronic neck and back issues, this telescope was never used; never turned on or registered. The following is a summary of the general product details (specs) and included items:

General Specifications:

- Optical Design: Schmidt-Cassegrain
- Aperture: 203mm (8")
- Focal Length: 2032mm (80")
- Focal Ratio: f/10
- Focal Length of Eyepiece: 25mm (.98")
- Magnification of Eyepiece: 81x
- Finderscope: StarPointer™ red dot finderscope
- Star Diagonal: 1.25" Star Diagonal
- Highest Useful Magnification: 480x
- Light Gathering Power (compared to human eye): 843x
- Mount Type: Computerized Altitude-Azimuth Single Fork Arm
- Software: Celestron Starry Night Special Edition Software and SkyPortal App

Included Items:

- Optical Tube
- Single Fork Arm Mount and Tripod
- Accessory Tray
- Star Pointer Finderscope
- NexStar+ Hand Control
- 25mm eyepiece
- Star Diagonal

A review of the Celestron NexStar 8SE computerized telescope was completed by Live Science. If interested, see the following weblink to this review:

<https://www.livescience.com/celestron-nexstar-8se-computerized-telescope-review>

Price: \$950. or best offer. Shipping is included within S.C. and Wilmington.

John Peckham
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