

S P E C T R U M

Northern Cross Science Foundation Newsletter

May 2023



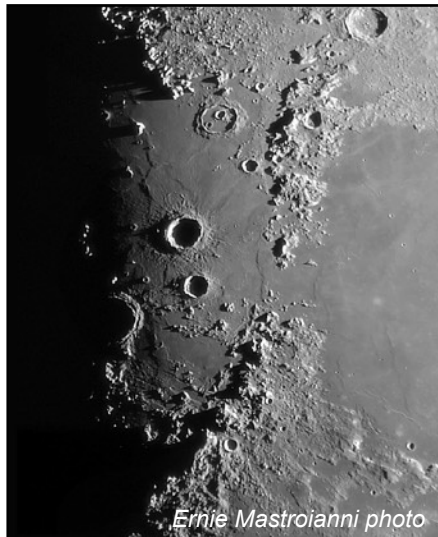
Aurora Display Again - For the second time in just one month, the active sun generated spectacular Northern Lights displays that could be easily seen in southeast Wisconsin. Charlotte DuPree took this photo near Mauthe Lake on April 23. After Mike Borchert and Joyce Jentges discussed the high possibility of a display via the NCSF Slack channel, Charlotte and husband Gene headed outside and were lucky to see the event when the heavy clouds parted shortly before midnight.

There's Much to See on the Moon

During the brighter phases of the moon, astronomers often lament that its brightness overwhelms and obscures the fainter deep sky objects we try to see. So what do you do? Make lemonade out of the lemons. Don Wrigley is going to give us some history, facts, and interesting things to see on earth's largest satellite, the Moon.

May Program

Don is a school teacher and member of the [East Valley Astronomy Club](#) of Gilbert, Ariz., and an avid local amateur astronomer. I heard Don give his talk last year and was amazed, as I hope you are, at how much there is to look at on the moon. Join us May 4 for the presentation. – *Mike Borchert*



April General Meeting Minutes

The meeting began at 7:30 pm. Eighteen members and guests were in attendance.

President Jeff Setzer opened up the meeting by directing people to look at the newsletter or website for upcoming events. Public observing nights will start in May.

Jeff did remind everyone that anyone who is trained as an observatory operator needs to fulfill an obligation of either leading at least one public viewing night, or assist at one

public viewing night during the season. The last several years we have had trouble getting leaders for the observing nights. If you are interested in learning how to operate the observatory, please contact a board member. Their contact information is listed on the back page of the newsletter.

Jeff noted that we were granted permission by the management staff at Harrington Beach State Park to See page 2

Coming Up

General Meeting May 4
[Jackson Community Center](#)
N165 W20330 Hickory Lane
Jackson, WI 5303

May 5 and 6
[NCRAL Convention](#)
[Grand Bear Resort](#),
Utica IL. See page 4 of the [Northern Lights](#),
the quarterly NCRAL
newsletter

Public Viewing
May 26 and 27
Harrington Beach, 8-11 pm
May 27
Pike Lake, 8-11 pm

Thursday, June 1, 6pm
General Meeting
[Jackson Community Center](#)
Members talk about their favorite astronomy gadget, book, place, anything.

More events on next page

Public Viewing Nights for 2023

Anyone trained as a Plunkett Observatory operator is required to fulfill an obligation of either leading or assisting at least one public viewing event during the observing season. We've had a hard time in recent years staffing these events, so please volunteer your time and knowledge. Contact any board member or observatory director Dan Bert (dbert64@gmail.com) to sign up.

- May 26 & 27, Harrington Beach State Park, 8-11 pm
- May 27, Pike Lake, 8-11 pm
- June 3, Solar Viewing at Pike Lake Discovery Day, 1-4
- June 23, Solar viewing, Pike Lake Fish Fry 4-7:30 pm
- July 15, Pike Lake, 8-11 pm
- July 21 & 22, Harrington Beach, 8-11 pm
- August 12, Pike Lake, Public, 8-11 pm
- August 25 only, Harrington Beach, 8-11 pm
- August 26, Ice Age Center, 7-11 pm
- September 9, Family Night, Pike Lake Beach area, 6-9
- September 8 & 9, Harrington Beach, 8-11 pm
- September 9, Pike Lake, 8-11 pm
- September 16, Pike Lake, 8-11 pm
- October 20 & 21, Harrington Beach, 8-11 pm
- October 21, Pike Lake, 8-11 pm



Public viewing at Harrington. - Ernie Mastroianni photo

Regional and National Newsletters

You can download the NCRAL newsletter at this link:

<https://tinyurl.com/242vzbud>

Or sign up to have it emailed:

<https://tinyurl.com/NCRAL>.

Download *The Reflector*, the national newsletter here:

<https://www.astroleague.org/reflector>

April Meeting Minutes

From page 1 have a light switch placed by the restroom at Puckett Pond so that we can turn off the restroom lights. The exterior lights are very bright and cast a glare across the parking lot that interferes with telescope viewing. A conversation followed. Gene DuPree mentioned speaking with club member Steve Schowalter regarding the outside lights for the bathroom. Steve had thought that the inside bathroom lights may have to remain on. But we would have control of the exterior lights.

The North Central Region of the Astronomical League convention will be held May 5 & 6, 2023 in Utica Ill. Registration is still open.

Gene DuPree mentioned that the Kazmierski family will be having an open house on April 29, 2023 for anyone interested in purchasing any of Rick's equipment.

The sale will run from 10 am - 1 pm. The information was forwarded to newsletter editor Ernie Mastroianni who sent an email sent out to all club members to give them more information and a list of equipment up for sale. The meeting was adjourned at 7:45 pm. - *Joyce Jentges*.

June Meeting is for Everyone

Hello club members, I'm still looking for input for June's meeting. I am calling it Gadget Night. I plan to present a 10-15 minute presentation on the website called [Cloudy Nights](#), where amateur astronomers can buy and sell astro gear, participate in forums, and post pictures. If you have a website, software, favorite movie series, maybe an associated meeting that lends itself to astronomy, a physical tool, favorite eyepiece, or, anything astronomy (you be the judge) please email me at gmborchert@gmail.com.

I would like to make this a recurring subject for future meetings. It's my intention to share and expand what astronomy means to all of our club members. You do not have to give a technical report. Simply describe, in your own words, why you're interested in the subject. Keep it short, perhaps no longer than 15 minutes for this meeting. Otherwise, if you feel the topic needs more time to discuss, we could have it for a feature subject at a future meeting. If you have any questions, please let me know, and hope to have an interesting June meeting. - *Mike Borchert*

Observatory Refractor Works Well with New Hand-controller and SkyPortal App

I gave a test-spin of the Plunkett Observatory's five-inch refractor and mount on a recent night. After doing a two-star alignment and four-star calibration, it accurately slewed to selected objects using the new hand controller. I also reset its' home position, so all looks good.

It also worked wirelessly using my iPhone with the [SkyPortal](#) app, which is free for Apple and Android phones. The app (screenshot at right) is a digital star atlas and a spin-off of Sky Safari. It's a great resource for locating all kinds of stars, planets and deep sky object.

It's a bit of a learning curve, but if you're familiar with SkySafari, it's essentially the same. I highly recommend downloading the app and using it with the club's excellent refractor. - *Ernie Mastroianni*



Sparkling Gems from the Sky

Observations on a recent flight revealed an unusual optical phenomenon

By Jim Hahn

After an enjoyable week in San Francisco, my wife and I were returning to the Milwaukee area via a connecting flight from Dallas on April 12th. I took a window seat on the right side of the airplane and tried to keep track of our progress by watching for landmarks, as I often do. As we started our descent over northern Illinois late that afternoon, I could soon see the southern end of Lake Michigan in the distance to the east, along with the Chicago skyline.

A few minutes later, I became aware that there was a patch of brighter terrain in the farm fields, perhaps three degrees in diameter, that followed the aircraft. This was reminiscent of a [glory](#), which I have observed before around an airplane's shadow on the cloud deck below. I reasoned that what I was observing must be an opposition effect, where shadows are diminished and sunlight is reflected more effectively back in the direction of the source: the Sun, getting lower in the west. Therefore, I figured, this moving patch of bright ground was at the [antisolar point](#).

After a minute or two, though, we started passing over urban areas, and a curious thing happened. The brighter patch of ground began to shimmer with tiny "gems" of yellow, red, white, and orange. For a few moments, I was puzzled. What would reflect sunlight in this manner? Windows? No, they're almost always vertical and would reflect most of their light toward the ground. Cars? That would account for the colors, but why would they shine so brightly?

Finally, I noticed that some of the gems were strung in "necklaces," sometimes curved, sometimes straight. It occurred to me that these were road signs, the type that are coated with tiny glass beads that act as retroreflectors. They were reflecting sunlight back toward the source, which, from their perspective, was behind the airplane. The effect was easier to see than in the photo (circled area).

I don't know how many other folks are fascinated by such things, but I hope you are inspired to watch for signs (literally and figuratively) that can be interpreted through the lens of science. Stay curious and watch the skies (and the ground) for phenomena that help you better understand the workings of the universe.



What appear to be curved and straight "necklaces" (in yellow circle) shine back at Jim Hahn's window as his plane flew over suburban Glenn Ellyn and Lombard. The effect is due to glass bead reflectors in road signs bouncing sunlight back to its source, which was directly behind the plane. - Jim Hahn photo



A glory is seen shining around the shadow of a jetliner cast on the cloud deck below the plane. The plane, directly between the sun and its shadow, created the optical effect. Ernie Mastroianni photo.

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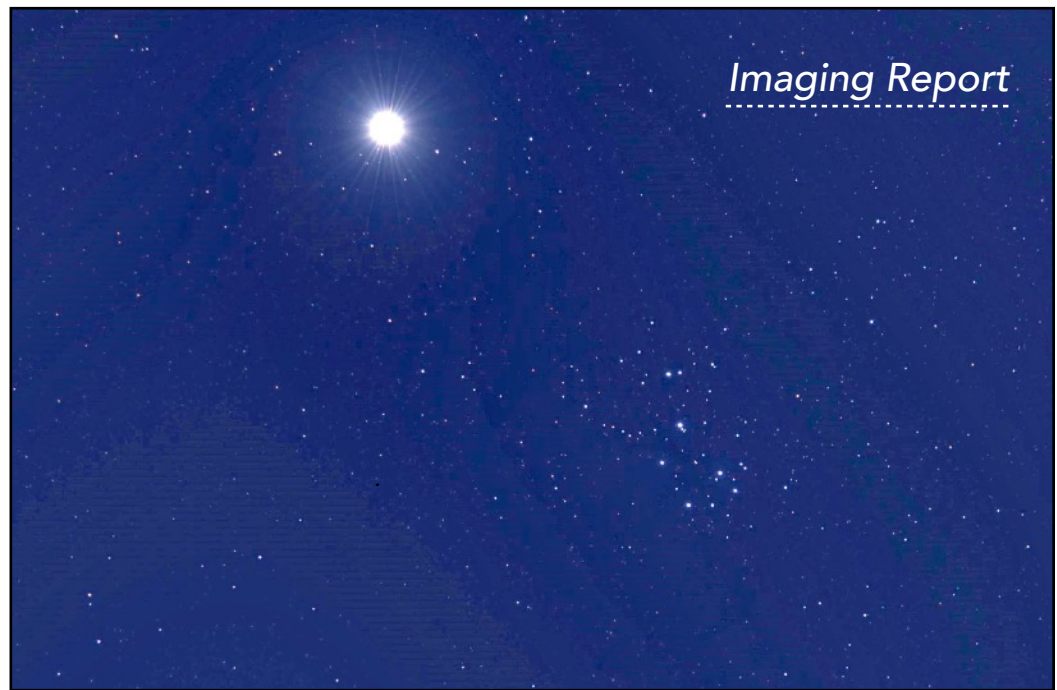
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NCSF is a member of the [North-Central Region of the Astronomical League.](#)

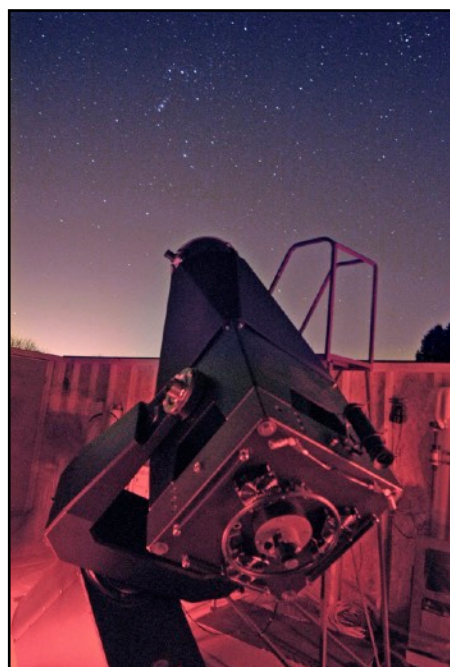


NCSF supports the [International Dark Sky Association](#)

**Imaging Report**

Above: Bright Venus overwhelms the Pleiades cluster as seen from Harrington Beach State Park on April 12. Susan Sell took this image with a Nikon Z6 II digital camera and a 100mm lens, her first astrophotography attempt.

Right: While Susan photographed Venus, Ernie Mastroianni was also at Harrington Beach and took about two hours worth of data on M63, also known as the Sunflower Galaxy. He used a Celestron 9.25 telescope and a QHY168c astrocamera.

**Spectrum newsletter**

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