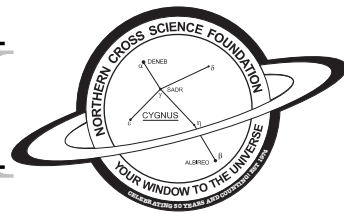


SPECTRUM



Northern Cross Science Foundation Newsletter

September 2024

Aurora Borealis Lights Up Wisconsin Skies

Dave Minerath

On August 11 the northern skies were the scene for some impressive aurora borealis, or “Northern Lights.” The aurora are generated when magnetic storms on the sun pull on Earth’s magnetic field. As Earth’s magnetic field recoils, powerful Alfvén waves are generated, electrons floating in space are accelerated by these waves into Earth’s atmosphere, where they interact with nitrogen and oxygen in the atmosphere, releasing the beautiful hues we see in the sky. Interestingly, this was only theorized for decades; it wasn’t until the early 2010s that researchers at UCLA proved this was the source of the Northern Lights.



Photo Credit: Mark Weber

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Monthly General Meeting Minutes

Joyce Jentges, NCSF Vice-President

The August 1st meeting of the Northern Cross Science Foundation began at 6:30 pm. 13 people were in attendance. The treasurer and secretary were missing, so no reports were given.

Vice President - Joyce Jentges gave a brief overview of upcoming events for August. August 9 & 10 at Harrington Beach State Park from 9 - 11 p.m. August 10 at Pike Lake 9 - 1 pm and August 24 at the Ice Age Center beginning at 8 pm.

Joyce reminded attendees about the 50th anniversary picnic on September 28, 2024. The picnic will begin at 2 pm. Bring your telescope for solar and regular observing. Please bring a dish to pass. Text or email Joyce to reserve your spot by September 15. One person mentioned that we ought to check on the paving of the park roads that will take place after Labor Day.

Note: The topic of the presentation was on Star Party Etiquette. The discussion was interesting and Members shared some ideas about this. Someone brought up about educating the public about this topic.

September Events

Thursday, September 5

6 PM-General Meeting

Jackson Community Center

N165 W20330 Hickory Lane

Jackson, WI

Presentation Topic: All About Eyepieces

Friday, September 6

8 pm-Observatory Viewing,

Harrington Beach State Park

Saturday, September 7

8pm-Observatory Viewing,

Harrington Beach State park

8pm-Telescope Viewing, Pike Lake

Saturday, September 28

2pm-50th Anniversary Picnic,

Harrington Beach State Park

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Photo Credit: James Neal

Aurora Borealis Lights Up Wisconsin Skies

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Aurora in Culture

The aurora are named after the Roman goddess of dawn, Aurora. The aurora were thought to be an untimely arrival of the dawn. The aurora in culture have several meanings, from good will and glimpses into the afterlife to predicting weather. While not useful in predicting terrestrial weather, they are a product of space weather for sure.

Our band of NCSF astrophotographers captured some very nice images of the aurora, they can be seen throughout this month's newsletter. 🍷

For further reading:

[“What Causes The Northern Lights? Scientists Finally Know For Sure”](https://www.npr.org/2024/09/01/1311111111/what-causes-the-northern-lights-scientists-finally-know-for-sure) (npr.org)

[Laboratory measurements of the physics of auroral electron acceleration by Alfvén waves](https://www.nature.com/articles/d41586-024-01111-1) (nature.com)

[Myths of the northern and southern lights through history](https://earthsky.org/aurora/myths-of-the-northern-and-southern-lights-through-history) (earthsky.org)

Monthly General Meeting Minutes

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It was mentioned that a small blurb about this could be listed on our yearly schedule that is put out. Joyce wondered if the state parks still do a newspaper about features and things to do in the park. If so perhaps we could have a small article on this topic in that. In years past we used to put cones up to block off our portion of the parking lot and perhaps that is something that could be done again.

The meeting was adjourned around 7:30 pm. 🍷



Photo Credit: Gene DuPree



Astronomy is useful because it raises us above ourselves; it is useful because it is grand;.... It shows us how small is man's body, how great his mind, since his intelligence can embrace the whole of this dazzling immensity, where his body is only an obscure point, and enjoy its silent harmony.

— Henri Poincaré —

AZ QUOTES

Observing Reports

Harrington Beach, August 9-James Neal

Ended up with 18 that signed the book tonight even through the clouds and few rain drops. I didn't count it but there was even a few dollars in the jar. I was very busy trying to keep both the refractor and a dob going at the same time. Jim and a couple others were in the parking lot. We viewed the Moon, Owl cluster, Albireo, a few other random open clusters and at the end of the night even managed to show off Saturn low on the horizon through a thin haze. Even with poor conditions Saturn always makes for a good night! I kept a few people entertained while it was clouded over showing and talking about the Messier objects, the different kinds of telescope, how the night sky rotates around Polaris.

August 10-James Neal

A total of 80 on the sign in sheet tonight. Between fighting equipment issues and parents not watching their kids it was a challenging evening but people still seemed happy! Unfortunately the clouds once again didn't cooperate requiring constant changing with limited targets.

I had the refractor and the club 10" dob going again. I also had the Celestron SCG set up but the tracking didn't last long before the battery completely died, a screw is missing on the finder scope making it useless and the batteries in the telrad are dead and corroded in place. But I did get some razor sharp views of the moon through it for a short period of time. Does anyone know what type of batteries it uses? I didn't have time to open it and check tonight.

Pike Lake-Gene Dupree

August 10 Pike lake SF partly cloudy to start was able to see moon first visitors we did get to view M3,13,15,17,22,27,39,and 57. In total we had 50+ visitors and a few meteor watchers. Thanks to Al Steinberg, Jim Hahn, and DuPree's.



Photo Credit: Don Woeltz

Reuss Ice Age Visitor's Center-James Neal and Gene DuPree, August 24

A fun night at the Reuss Ice Age Visitor's Center last night. By no means perfect skies but there were plenty of "oohs" and "ahhs." I am not sure what the others were able to see. I mostly kept switching between Hercules Cluster, Ring Nebula, Owl Cluster, Albireo, Andromeda and Saturn.

Also a great time, looked at those objects & blue snowball, coathanger, dumbbell, M11, M8 M39, IC4665 Thank's to James & Amanda Neal, Jeff, & DuPree's and two Couples from Watertown and Oshkosh. About a 100 + visitor. 🍷



Figure 1: Observing at the Reuss Ice Age Center (Photo Credit-James Neal)

Star Party Etiquette

Joyce Jentges, NCSF Vice-President

This is a follow up to my recent talk about star party etiquette. With some newer members in the club I thought it might be a good idea to put this out so that people who did not attend the talk could see the general information.

In general there are a couple of rules you should always follow when attending star parties. The first thing is to always use a red flashlight. But be aware, because not all red flashlights are the same. Some are very bright. If you are using a red headlamp type of light, make sure you are not blinding people when you walk up to them. Second, it's always a good idea to ask before touching equipment. Also be careful of tripping on cords and tripod legs in the dark. It's also a good idea to come prepared. Bring your own chair, drinks, snacks and bug spray. Bring an extra layer or 2 of clothing so that you are prepared if the weather is chilly.

If you are the observer: Arrive at the site early so you can set up before dark. Make a list and check it twice for everything you will need. Make sure to turn off any headlights or interior car lights. If possible use red lighting in your car for any lights you are not able to turn off. Don't borrow from your neighbor.

If you are the guest or the public at star parties: Keep children and pets under control. Nothing spoils a night of sharing astronomical wonders like a child who won't stop trying to touch the equipment. Use red flashlights instead of white. Ask questions! Be careful where you walk. Look for tripod legs and cords that you could trip over. Be respectful of the person's observing space.

For those of you who attend overnight star parties: Be respectful of late sleepers. Observers tend to stay out late and sleep in, so be careful about not slamming car doors or having loud conversations if others are still sleeping. Don't mooch off the neighbor. The only time I've been to the Nebraska Star Party, one of our neighbors was borrowing everything under the sun from our group. Come prepared! Remember that if

This Month in Astronomy History

Dave Minerath

1971-Pioneer 11 is the first spacecraft to fly by Saturn

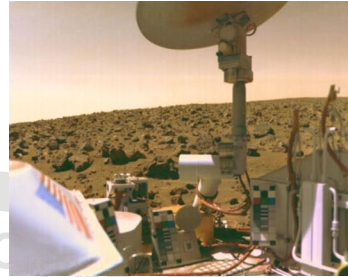


Photo Credit: NASA/JPL

1880-Amateur astronomers Henry Draper and Mary Anna Palmer Draper capture the first photo of the Orion Nebula, M42

Further reading:

<https://lowell.edu/this-month-in-astronomy-september-2021/> (Note: the

website incorrectly states that Viking 2 was the first spacecraft to land on Mars; the first landing was conducted by Viking 1 in July 1976)

<https://aas.org/posts/news/2022/10/month-astronomical-history-september-2022>

you are sharing campsites there is very little privacy. If you like music during your observing session, keep the music down low or wear headphones. Keep liquor to a minimum as no one wants a drunk person stumbling around expensive equipment. If you are a smoker, please go someplace away from the rest of the group to smoke. People can be sensitive to cigarette smoke.

I hope that you will find these tidbits to be useful. Feel free to discuss this in Slack and add any ideas you may have. 🍷



Artist rendition by Rick Guidice

1976-Viking 2 lands on Mars



Photo Credit: Harvard College Observatory

Board of Directors, 2024

President - Jeff Setzer
1418 Trillium CT
West Bend, WI 53095
262-338-8614
astrosetz@hotmail.com

Vice President -
Joyce Jentges
336 N Main Street, Apt.3
Cedar Grove, WI 53013
262 483- 4270
joycejentges@hotmail.com

Treasurer - Gene DuPree
6219 Jay St.
West Bend, WI 53095
262-675-0941
grdupree@charter.net

Secretary- Don Woelz
4892 Lois Lane
West Bend WI 53095
(414) 732-7705
woelzd@charter.net

Kevin Bert
2292 Ridgewood Road
Grafton, WI 53024
(262) 674-0610
kevin.bert@hotmail.com

Mark Zellner
N58 W5624 Edgewater
Drive
Cedarburg, WI 53013
(262) 204-8283
mk.zellner@yahoo.com

James Neal
341 Deer Meadow Dr.
Fredonia, WI 53021
(812) 580-3731
penn.dm@gmail.com

In The Sky This Month

6-Mercury at its evening peak
8-Saturn at opposition
17-Partial Lunar Eclipse
20-Neptune at opposition

Read more:

<https://spacetourismguide.com/september-night-sky/>



*Heart Nebula, IC1805. Photo
Credit: Ernie Mastroianni*



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Editor:

Dave Minerath
7430 N. Boyd Way
Fox Point WI 53217
dave.minerath@mac.com

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