

SPECTRUM

Northern Cross Science Foundation Newsletter

May, 2017

Looking Up

May 4, Thursday

General Meeting

7:00 p.m. - Astronomy 101

7:30 p.m. - Main Program

Business Meeting to Follow

May 18, Thursday

Board Meeting

7:30 p.m.

House of Jeff Setzer

May 18, 19, 21, Thur, Fri, Sun

Astrophotography Training

8:00 p.m.

Harrington Beach

(See Ernie's Article, Page 2)

May 20, Saturday

Observatory Training

7:00 p.m.

Harrington Beach

May 28, Sunday

Port Washington Street Festival

Noon - 5:00 p.m.

Downtown Port Washington

May 28, Sunday

Astronomy Day

Dusk - 11:00 p.m.

Harrington Beach

NCRAL 2017 *by Charlotte DuPree*

Look Learn Lodge at Eagle Bluff, NCRAL 2017 April 21-23, Hosted by the Rochester Astronomy Club. This year's theme was "Observational Astronomy".

Eagle Bluff Environmental Learning Center is a private non-profit residential learning center. It's not a hotel nor is it a typical college campus. We arrived at Eagle Bluff and checked in at the conference table. We were then asked to turn in the medical release forms that we brought along, of course I did not know of these forms ahead of time. We were then assigned to our room, and told the procedure to find the provided sheets, blanket, pillow and towels. The shared rooms were two bunk beds in two rooms and a shared bathroom, but we had paid for a private room. The \$45 fee, for food, gave us Friday night dinner, 2 breakfasts, and lunch, which were served cafeteria style, (remember school). Also a buffet banquet dinner on Saturday night.



There were two presentations on Friday afternoon with a Starlab portable planetarium. The Friday night talk was Dr. Robert Mutel. He has a strong interest in astronomical instrumentation with robotic optical telescopes, with the University of Iowa's robotic telescope observatory in southern Arizona, since 1998. The observing that night was cancelled because the seeing was bad with thin clouds. So instead there was a social gathering. Since there were no other groups in camp, alcohol was allowed. We were able to see Jupiter, and a few stars. The morning view, of the fog in Lanesboro, in the valley below, from our second floor room, was very cool. Saturday's schedule included six speakers with topics ranging from "Astro Bucket List", "Architecture of Planetary Systems", "Doing Research with Backyard Telescopes", "500 years of Astronomy", and a quick round of "Astro Bingo". (Coming to a future 101

meeting!)

The after dinner speaker was Dr. Jennifer L.B. Andersen, from Winona State University. Her talk was "Going Ballistic! Making Impact Craters in the Laboratory". She has collaborated with colleagues at the Experimental Impact Laboratory at NASA's Johnson's space center in Texas. The "Star Party" was like no other with the most perfect night for viewing with a 30 telescope, **WOW!!!**



Tribute to Mickey Kazmierski



Long time NCSF-member Mickey Kazmierski passed away this month on April 10th. Mickey was an active member the Club, including the co-editor of this Newsletter.

Mickey co-chaired NCRAL 2014 "Gazing at the Stars". She was also our club's contact to

NASA's "Space Place". Her love of Astronomy was inspiring and she will be missed.

My special thanks for the outpouring of concern and sympathy at her passing.

April Meeting Minutes

By Kevin Bert

The April Business meeting of the Northern Cross Science Foundation was held at the GSC Technology Center in Germantown. President Jeff Setzer called the meeting to order at 8:35pm and noted that April is global astronomy month. He welcomed 24 members and guests, and then asked for standard reports.

Treasurer Gene Dupree reports \$12,545.99 in the checking account. The Observatory account remains at \$1,042.01.

Secretary Kevin Bert reports that final notices have been mailed to members who have not renewed and the membership roster is close to being finalized. It should be included in the next Spectrum. The date for the Astronomical League 2017 Regional Convention in Rochester Minnesota is April 21 - 23. Look to ncral.wordpress.com for additional information as registration is now available. If you are planning to register the on site rooms are full so sleeping accommodations will need to be made in the nearest town.

The Observatory Director was not in attendance therefore no update.

Jeff Setzer led a discussion on the total solar eclipse coming in August. The Cedar Lake Campground still has sites available for those looking for a nearby location to be in the path of totality. Ron Powell will be working the Observatory and will need help from members that plan to stay locally and view.

Jeff Setzer covered upcoming 2017 events. He noted that April is the final month before the start of outreach activities in May. May 28th is Memorial Day weekend and the start of our Astronomy Day. Starting with solar viewing at Port Washington's Street Festival followed by viewing under the stars at the Observatory at Harrington Beach. Registration is open for Wisconsin Observers Weekend (WOW). Only two of the five camp sites at Hartman Creek State Park were reserved for this event so members wishing to attend should register soon because of the limited space.

Joyce Jentges reports to the membership that the date to see Col Jeffrey Williams at the Spaceport Sheboygan is April 8th at

10:00 am. There is also a 1:30 pm presentation. The cost is \$5.00.

Kevin Bert did not rule out having the binocular mounts ready for Astronomy Day. Progress has been made over the past months.

With no further business Jeff closed the meeting at 9:20 pm.



Astrophotography training slated for mid-May at Harrington Beach

By Ernie Mastroanni

Astrophotography training slated for mid-May at Harrington Beach

Join me for astrophotography training with the club's five-inch refractor and dedicated astrocamera in mid-May at the Plunkett Observatory. I've reserved the evenings of Thursday, Friday and Sunday, May 18, 19 and 21, beginning at about 8 pm. The 20th is already reserved for general observatory training. We'll see what the weather brings and try for the best one or two nights during that time.

You won't need a computer, but if you have a Nikon or Canon DSLR, bring it. You'll will how quickly you can capture dramatic images with just a few exposures. The club has telescope adapters for these two brands.

If you don't have a DSLR, bring a thumb drive, and we'll shoot images with my 8-year-old Nikon DSLR, and I'll download the images from my computer. You can view them at your leisure. But please do bring a notebook. I'll also try to write a guide of step-by-step instructions. Keep in mind that it takes time to master this. Expect to make mistakes and learn from each one.

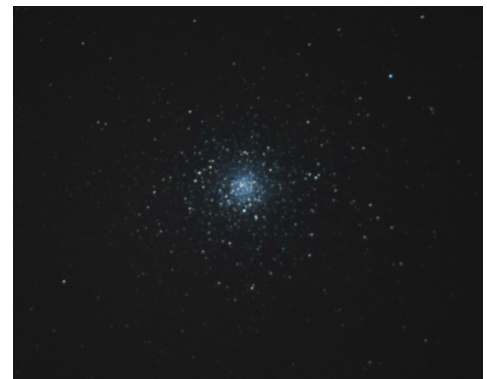
Contact me via my email at emastroian-ni@wi.rr.com a few days ahead of time and we can discuss what night will be the best.

Astrophotography can be complex, with steep learning curves on hard-to-parse software. The club's camera produces color images, but you'll need to buy software to see the results. The good news is that there are alternatives, as simple as taking one single frame with your DSLR camera. It is possible to reveal the spiral arms of a galaxy after just a few short minutes of exposure. My goal is to give everyone a hands-on chance to make pictures (and mistakes) and to end the evening with images that you can view on your own computer, without buying a new program.

Think about what you might like to shoot. Galaxies? The venerable pair M81 and M82 are nicely positioned. So is the face-on M101 as well as the Leo trio of M65, M66, and NGC 3628. Globular clusters M3, M5 and M13 are also well above the eastern horizon and produce very nice images with very short exposures. I hope to see you then. I'll keep the technical jargon to a minimum and the exposures short for this first run.

Photos:

Some targets don't require much time. Ernie Mastroianni took this photo of M5 with his Celestron 9.25 from his light-polluted backyard in Whitefish Bay. It is one single exposure of just 90 seconds, with an old Nikon D300.



M5 by Ernie Mastranni



Leo Trio by Nolan Zadra

Nolan Zadra took this photo of the Leo trio with the club's astrophotography setup at Harrington Beach in early April. It's a stack of 33 exposures of 3 and 4 minutes, plus a few dozen dark frames. This was an effort that consumed an entire evening.

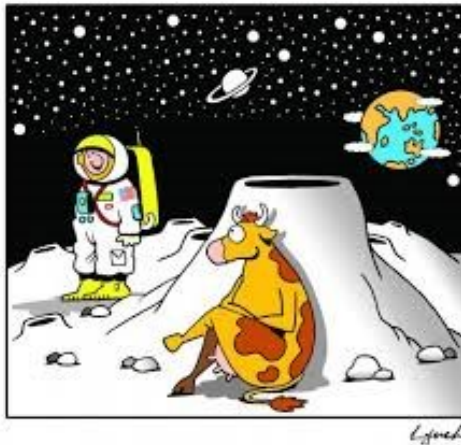
May General Meeting

Main Program

by Gene & Charlotte DuPree

"Make Your Own Solar Filter"

Are you ready for the August solar eclipse? Have you checked all of your equipment for solar filters? This month's meeting you will be able to make a solar filter for all of your equipment. Bring the measurements, or better yet, any of the optics you need to have a solar filter on. Don't forget about your finder! Baader solar film will be available for purchase. Instructions and other materials needed will be supplied. We will not be able to use the glue necessary to finish the project so you will have to complete them at home.



Flocking a Newtonian telescope by Michael Valsov

A Newtonian reflector's open tube (or any other OTA for this matter) is an attractive target for unwanted stray light, which can come from anywhere: Moon, street lights or even bright stars. This light bounces off telescope's inner surfaces and eventually enters the focuser and the eyepiece. As a result - the background lightens up and the image contrast is harmed.

There are several solutions to this problem: Attaching an extension to the tube (which is also useful for dealing with dew), baffling the telescope, or flocking it from inside with light absorbing material. Baffling is probably the most effective method (if calculated and done properly), while flocking is the easiest. The idea behind flocking is to increase light absorbing properties of the inner surfaces of OTA by covering it with a special material. It allows absorption of the unwanted light, rather than reflecting it. In practice, in unbaffled tube, some stray light will always get to the eyepiece, but flocking can minimize the harm.

Flocking Material

Usually a telescope is painted with black, matte paint inside. However this paint is usually far from being an ideal light absorber, especially at oblique angles. See the following photo for a comparison of a special flocking paper (left) and my Orion reflector's native paint (right).

For this purpose I used flocking paper from Protostar. It's VERY black, relatively easy to install, and resistant to moisture (according to manufacturer). "ScopeStuff" offers similar material either. It comes in many forms, while mine was a boxed roll of black self adhesive "mesh" paper, with waxed protective sheet over the sticky layer.

Flocking Procedure

In order to apply the material - it's recommended to disassemble all parts from the telescope: Main mirror cell assembly, secondary mirror assembly with the spider, focuser assembly and finder holder.

After the disassembly - some measurements should be made, in order to cut the appropriate

rolls or sheets of the material. Try keeping the overlaps to a minimum, or better avoid them, since the flocking paper doesn't stick well to itself.

If your tube is big enough (6-8" or larger) - the flocking paper can be simply rolled and inserted into the OTA. Then you can start removing the protective layer (white in the following image) from one of roll's edges, which is parallel to the tube, and stick the flocking paper (black) to the tube's surface.

Unroll the paper inch by inch, gradually removing the protective layer, and attach the exposed flocking material. After each few inches - use your fingers to smoothen out the material, while applying some pressure. There is an alternative method of applying the material using long slices 2-4 inches thick. It can be useful if the tube is small. After the flocking is done - protostar recommends making longitudinal cuts every 3-4 inches with a sharp knife, to compensate for OTA's temperature expansion. The holes for



screws and focuser can be easily cut out using a sharp knife, from inside.

Apart from the tube - you may flock the secondary mirror edges, focuser inner parts, mirror clips, and basically any surfaces inside the telescope which you believe may play a role in reflecting unwanted stray light into the focuser. See a flocked secondary mirror edges in the following example.

RELATED INFO

Leaders for Public Viewing

May 28, Sunday

Port Washington Festival
Joyce Jentges

May 28, Sunday

Astronomy Day Eve
Gene & Charlotte DuPree

Star Parties

WOW

June 22 -25

Hartman Creek State Park

WWW.new-star.org

Northwoods

August 25 -27

Hobbs Observatory

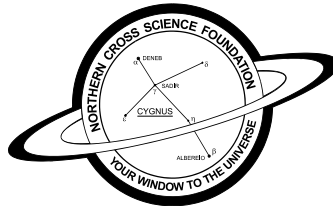
Beaver Creek Reserve

Fall Creek, WI.

www.cvastro.org



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**Jim & Gwen Plunkett
OBSERVATORY**



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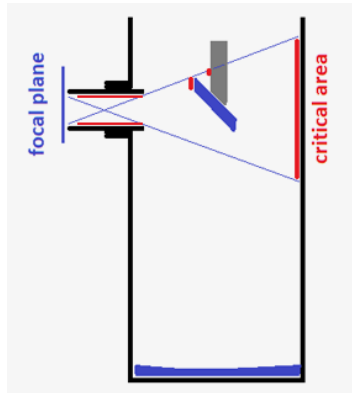
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Most important is to flock the inner OTA surfaces which are directly visible from the focuser, and the focuser's inner surface. Therefore if you do not wish to disassemble and flock the entire telescope - at least flock these critical areas seen left.

For Sale Impressive large 14.5 inch telescope with unusual F/ 5.6 ratio! Reduced size secondary and curved vanes for less obstruction for planetary views. Custom made mirror made by known mirror maker Jim Mulherin of Torus Optical, now OMI. Torus specified the mirror "Each mirror is guaranteed to be corrected for spherical aberration to 1/10 wave, peak to valley on the wave front using the Caustic Test with no detectable astigmatism under the Wire Test." My personal notes indicate he might have ground it to 1/16th.



Gorgeous views of M 13, M 81 and 82 in the same field, M 57, M 27, Jupiter, Saturn, Andromeda (M 31), Orion Nebula (M 42).... Includes shroud to keep dew off of main mirror, 2 wood arms to move it on 2 wheels (see picture), older dob driver, 2 inch JMI focuser with 1.25 adapter, 6 inch off axis aperture mask with separate cover, wires for dew heater on the secondary. Have over \$4000 cost but willing to sell for about 1/2 that amount. Height at zenith 77.5 inches; height at 60 degrees is 68 inches.

Nolan 414 333 5248

SPECTRUM

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NCSF is a member of the North-Central Region of the Astronomical League.



NCSF supports the **International Dark Sky Association**

This Issue, along with back Issues of SPECTRUM, can be found on the NCSF Web Site.

Monthly Meeting Information

7:00 p.m. Astronomy 101 Mtg.
7:30 p.m. Main Program
Location at the -
GSC Technology Center
W189 N11161 Kleinmann Dr
Germantown, WI 53022

Spectrum Newsletter
5327 Cascade Drive
West Bend, WI 53095

Please send your Questions, Suggestions, Articles, and photos to:
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