

REFLECTIONS / REFRACTIONS

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University Lowbrow Astronomers Monthly Newsletter

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RHO OPHIUCHI

BY AWNI HAFEDH

Rokinon 135mm at F/3.2
ZWO ASI1600MM Camera
Astronomik H-Alpha, Red, Green, Blue filters
iOptron CEM26 mount



THE NORTHERN SIGHTS*

AN AURORA AND AN ECLIPSE WITHIN 24 HOURS

BY DOUG SCOBEL

We had an aurora alert the evening before the partial lunar eclipse on September 17, 2024 so I ventured north of the city to Woolsey Airport to get away from the Traverse City light pollution. (Yes, we have light pollution up here too!) Even though the sky was washed out by an almost full moon, we had a decent view. In a dark sky I think it would have been quite good.

Ever looking for a dark site from which to capture wide angle shots of a dark sky, I stumbled upon Woolsey earlier that day. It's a small landing strip north of Northport, less than an hour's drive from my home just southeast of Traverse City. Peterson Park, also north of Northport on the Lake Michigan coast, has been my favorite site when I want to get away from "the big city". Unfortunately, it is also the favorite site of many locals who come to it to view aurorae, meteor showers, or simply view a dark sky. The bad news here is that there is often a steady stream of cars with headlights blaring and glaring and ruining the night vision and sometimes photographs of folks already in the park. Folks like me.

Earlier the same day that I captured these shots of the aurora I had driven to the tip of the Leelanau to Leelanau State Park, where there is a lighthouse and a rocky beach. I was thinking it might be a nice venue to image the northern night sky. But I quickly discovered that it's full of trees with little clear area to set up. Plus the park closes at 10:00 pm. Fortunately, while chatting with the woman in the gift shop, she mentioned the little airport, and how her daughter found it to be a good place to photograph the night sky. I had passed by it on my way to the state park, and on other days previous, but never considered it. It is right on the side of the road, with no trees or protection from passing vehicles' headlights. So I stopped on my way back home not expecting much. To my delight I found a nice little driveway of a road behind the "terminal", plenty of room to park, and a completely open and low horizon facing due north. Definitely worth checking out at night!

Luckily, we had an aurora alert that evening, and despite the almost full moon I ventured back up to Woolsey where I took these shots. I was there for a couple hours, and I remember just one vehicle that drove past.



**NORTHERN
SIGHTS**
continues, p. 3.

NORTHERN SIGHTS continues ...

In fact, for the image with the building in the foreground, I set my camera and tripod in the road! These (right, and previous page) are very wide-angle shots, about 115 x 75 degrees. To give you an idea of the scale, the Little Dipper can be seen just above and right of the terminal's gazebo-like roof. And it is just barely right of center in the previous shot. Both were with my Canon 5D Mark IV DSLR and 14mm Rokinon lens. 5 seconds at f/2.8, ISO 3200. I post-processed the RAW images in Photoshop Elements 2020. It took some effort to draw out the colors but these provide a bit of the impression of viewing the northern lights in a washed-out sky. It was quite the "Northern Sight"!



Less than 24 hours after the aurora we were treated to a partial lunar eclipse. This time I didn't have to drive anywhere, all I had to do is go out my front door to take an image once every ten minutes or so. I chose the five best representative shots and assembled them into this composite. The images span from about 9:50 pm EDT to about 11:50. The center image is at maximum eclipse.



Again, I took all of them with my Canon 5D Mark IV DSLR and Canon 100-400mm lens set to 400mm, hand held (the image stabilization built into that lens is impressive). 1/400 sec at f/8, ISO 400 (sunny f/16 rule** plus two stops because the moon is dark***). Again, post-processed in Photoshop Elements 2020.

**The "sunny f/16 rule" states that for a middle-toned subject in direct sunlight the proper exposure is the reciprocal of the ISO at f/16. You don't even need to use an exposure meter! You just have to compensate for a subject that is darker or lighter than mid-toned. In this case plus two stops was just right.

***"There is no dark side of the moon really; matter of fact it's all dark". Used without permission.

***The Northern Sights:** Even though I sold my large 16-inch Dobsonian telescope, I still have my small homemade 6-inch f/4.5 Newtonian "Smurfette", my smaller 65mm f/5.6 "Backpacker" refractor, and of course my DSLR camera. Every once in a while, I get out to observe, but much more likely take my camera out to capture the Milky Way, meteor shower, aurora, an eclipse, or maybe even a bright comet here and there. Rather than post an email I thought I'd start a

little series of articles for our newsletter. Considering that I live farther north than most if not all of you, and that as often as not I expect their subject to be of the northern lights, I thought I'd name these articles "**The Northern Sights**".

I suggest you consider doing the same to help out our newsletter editor. Far too often she has to cobble together "articles" from you, assembling emails and photo posts from various emails. If you're going to the trouble of writing an extended email post, why not submit it as an article? Amy will surely appreciate it as it will make her job a LOT easier!

REVIEW: CELESTRON ECLIPSMART 10X25 SOLAR BINOCULAR

BY JEFF KOPMANIS

I hadn't thought too much about owning a pair of solar-only binoculars, but merely thought "That'd be handy." Specifically, a pair of binoculars would be easier than lugging out a telescope, mount and setting it all up, just to see what the Sun was doing today.

I had a small Amazon order that wasn't up to the \$36 limit to get free shipping, so I thought I'd shop around and discovered these little guys and quickly added it to my cart. Couple days later they arrived and I couldn't wait to try them out. \$26.30 on sale...how could I go wrong? Even at \$36 full price, what the heck?

Wow!

First of all, these are very compact, and pretty lightweight, but still made of (gasp!) actual metal! The neckstrap, or should I say, "neck-string" is a joke. It'll either break and I'll drop my binocs, or it'll saw my neck in half. Didn't even untie them.

The view is clear and I was able to pick out sunspots in pretty good detail. 10x magnification seems to be about what they promised. I couldn't manage to take a picture through the eyepiece, but it's pretty much as you would expect. I think they might be slightly misaligned as I was getting a little chromatic aberration at the edges of the Sun. These are only 25mm objective lenses, so I was a little surprised by that, but then again, for \$26, there might be some compromises. I included a photo of the specs that are printed on the underside of the focuser for those number-bound enthusiasts.

Each optical tube is able to swivel from the focuser, so you can get a comfortable view. The focuser is on top and kind of a standard rotary type (not the tilt-abomination!). My right eye needs significant



correction, so I was pleased to find that the right-side eyepiece was adjustable so that without glasses on, I could get a crisp view. The eyecups fold back, which is probably where you should leave them ... they're not very deep, and kinda flimsy. I'm going to bet they'll be the first to "achieve separation from the mothership". They come with a fuzzy-lined case with a belt-loop, so you could keep them with you on hiking trips without relying on the neck-string.

Overall, for the price and the view, I think these are a wonderful buy and have already enjoyed checking out the Sun on those days when the Michigan Nebula abates.

Available from **Amazon**:

<https://www.amazon.com/dp/B01MAX8ZB7>

ON THE ROAD TO OKIE-TEX: A STAR PARTY TRAVEL UPDATE

BY ADRIAN
BRADLEY

[From September 25]. Jim Forrester and I are in transit to Kenton, Oklahoma for the Okie Tex Star Party (OTSP), held every year surrounding the new moon and fall Equinox.

On our first day of travel, we stopped at an RV park near Iowa City, Iowa. That night we both noticed that despite all the light from fellow campers, the sky had good contrast. The overall darkness in minutes per square arc seconds was 20.2. 'Minutes per square arc second' is the unit of measurement from an SQM-L meter, which measures night sky darkness. For reference, Peach Mountain usually reads between 20.4 and 20.6.

So how could I get this image with a non-modified mirrorless camera, a 24mm f/1.4 lens? By using a small tracking device called the 'Move Shoot Move Rotator.' I roughly polar aligned it, did some test shots, and took 4 2-minute images tracking the sky, one 46 second image untracked for a sharp image of the foreground trees, and one 46 second image untracked for the campground. I connected the still images into a panorama, meaning I combined the two images, stacked the 2-min images, then used Photoshop to layer and increase the canvas size. Final edits were done with Lightroom Classic.

The longer exposures were done with an ISO of 400, 2-min exposure time at f/2.8. The ground was done



Getting the Milky Way to be detailed like this in a bright trailer park takes a couple conditions to be present.

with around the same iso but at f/1.4,

A single shot may not have gotten the detail necessary, and would have also pulled in too much surrounding light. A higher ISO may have blown the campsite out. The trick is to allow the starlight to hit the sensor while taming down the bright lighting all about.

When shooting the Milky Way, you must take your surroundings into account. There is never one single setting that will always get you the detail you may be looking for. Composite shots and tracking are often the ways to achieve a tough image when you are traveling towards the darker, transparent western skies.

UPCOMING MEETING SPEAKER SCHEDULE

October 18: Kathy & Kurt Hillig,
Ed Hernandez, Adrian Bradley,
and Doug Nelle.

Topic: Memories of the Eclipse

November 15: Dragan Huterer

Topic: TBA

December 20: Gary Nichols

*Topic: How Smart Are They? A
Comparison of the New Breed of
All in One Smart Telescopes*

January 17: TBA

February 21: Jeff MacLeod,

NASA/JPL Solar System

Ambassador

Topic: TBA

March 21: Dr. Richard Goodricht

*Topic: Fear and Loathing in the
Heavens*

CHECK OUT THE LOWBROW WEBSITE

<https://lowbrows.club>

for

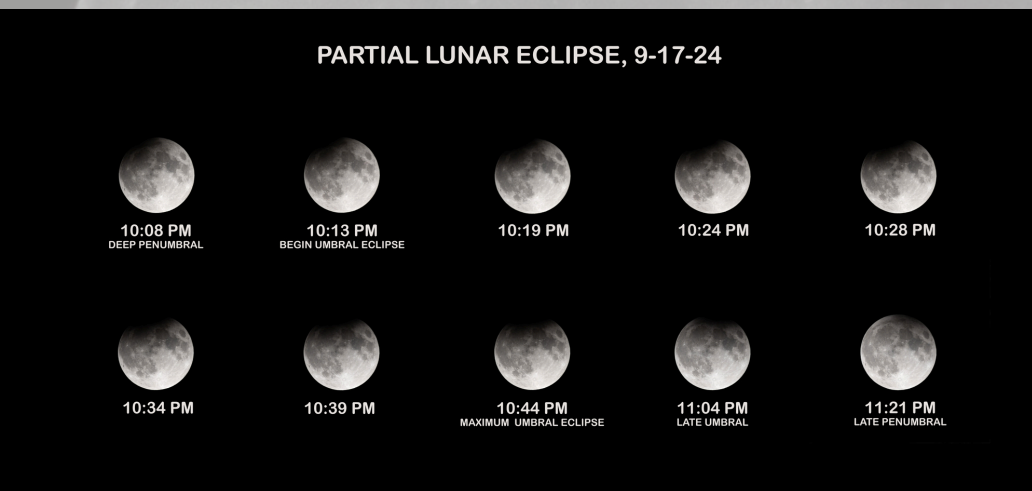
- our newsletter archive
- Objective Lens archive
- photo galleries
- upcoming events
- open house schedule
- videos of speaker presentations
- observing guides
- observing sights
- astrophotography tips
- Young Astronomers site

And much more!

PHOTOS of the LUNAR ECLIPSE from CLUB MEMBERS



Photos left and right by Doug Bock. 10" f/8 RC with the ZWO asi2600MC PRO camera 30 second videos Processed with Autostakker t3 and PixInsight.



From Glenn Kaatz: Nikon D850 with Sigma 150-600 mm lens plus a Sigma 1.4X teleconverter f/11, 1/200 sec, ISO 200 Processing: Lightroom and Photoshop



Photos left and right by Adrian Bradley: Please enjoy my two images - one after greatest eclipse and one as the northwestern limb is becoming visible within Earth's shadow. They were taken with a Sony mirrorless camera and a 600mm lens, sitting on a tripod.



NO MEETING MINUTES BECAUSE ... WE WERE AT AATB!

FRIDAY NIGHT REPORT

BY DON FOHEY

I set up in a Lowbrow row of big glass. I had my 14" DOB, Jim his 15" DOB and Jack with club 17" DOB. I was busy from the moment I started unpacking. I never had a chance to talk with Jim or Jack. As I assembled the telescope, I explained to those watching how a telescope worked. They watched and asked questions as I collimated the optics and explained mirrors, eyepieces and magnification. As the first star appeared, an interested group watched as I calibrated with Arcturus and initialized the tracking software. Members of other clubs knowledgeable about telescopes stopped to discuss my unusual homemade 14-1/4inch F4.1 quartz mirror with stepper motor movement and tracking and bluetooth SkySafari communication.

I had Sky Safari on my 10" tablet mounted on a tripod for easy viewing. At times I explained the sky maps, showed the position of comet 19P/Oblers, and at times had the information screen detailing the object I was observing. I also had Sky Tracker VR using a Google Daydream View - VR Headset. I passed it among those who were waiting in line to look through my telescope. It received more WOW's than views in the telescope.

The sky had passing clouds. There were always clouds and always a clear area. So I moved from object to object as the clouds moved. During the evening I observed M3, M5, Mizar, M11, M27, and Alberio. I left Saturn to the many refractors on the field. I failed to see 19P/Oblers and M51 due to the bright sky. The clouds finally won out and filled the sky about 11PM and I began packing up. I had a very rewarding evening and met and talked with some wonderful people.

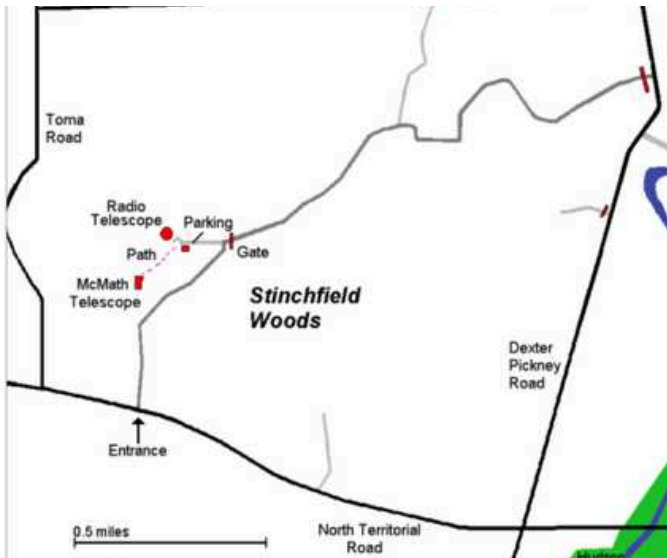
Top right photo: Don Fohey
Middle and bottom photos: Amy Cantu



PLACES & TIMES

Monthly meetings of the University Lowbrow Astronomers are held on the third Friday of each month at 7:30 p.m. The location is usually the Judy & Stanley Frankel Detroit Observatory. The Observatory is located at 1398 E. Ann St., Ann Arbor. The Ann Street Parking Structure (M86), the Catherine Street Structure (M5), the Glen Street Structure (M61), and the School of Public Health II Lot are usually open after 6:00 p.m. Mon-Fri. The M86 structure is closest to the Detroit Observatory.

Peach Mountain Observatory is the home of the University of Michigan's 25-meter radio telescope and McMath 24" telescope, which is maintained and operated by the Lowbrows. The entrance is addressed at 10280 North Territorial Road, Dexter MI, which is 1.1 miles west of Dexter-Pinckney Rd. A maize and blue sign marks the gate. Follow the gravel road to the top of the hill to a parking area south of the radiotelescope, then walk about 100 yards along the path west of the fence to reach the McMath Observatory.



PUBLIC OPEN HOUSE / STAR PARTIES

Public Open Houses / Star Parties are generally held on the Saturdays before and after the New Moon at the Peach Mt. Observatory but are usually canceled if the forecast is for clouds or temperatures below 10 degrees F. For the most up-to-date info on the Open House / Star Party status call: (734) 975-3248 after 4 pm. Many members bring their telescope to share with the public and visitors are welcome to do the same. Mosquitoes can be numerous, so be prepared with bug repellent. Evenings can be cold so dress accordingly.

Lowbrow's Home Page
<http://www.umich.edu/~lowbrows/>

MEMBERSHIP

Annual dues are \$30 for individuals and families, or \$20 for full time students and seniors age 55+. If you live outside of Michigan's Lower Peninsula then dues are just \$5.00. Membership lets you access our monthly newsletter online and use the 24" McMath telescope (after some training). Dues can be paid by PayPal or by mailing a check. For details about joining the Lowbrows, contact the club treasurer at: lowbrowdoug@gmail.com

Newsletter Contributions:

Members and non-members are encouraged to write about any astronomy-related topic. Contact the Newsletter Editor: Amy Cantu cantu.amy@gmail.com to discuss format. Announcements, article, and images are due by the 1st day of the month as publication is the 7th.

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Newsletter Editor:	Amy Cantu
Key-holders:	Jim Forrester Jack Brisbin Charlie Nielsen
Webmaster:	Krishna Rao
Online Coordinator:	Jeff Kopmanis

A NOTE ON KEYS: The Club currently has three keys to the Observatory and the North Territorial Road gate to Peach Mountain. University policy limits possession of keys to those whom they are issued. If you desire access to the property at an unscheduled time, contact one of the key-holders. Lowbrow policy is to provide as much member access as possible.

Email to all members
Lowbrow-members@umich.edu



University Lowbrow Astronomers



www.youngastronomer.org