

# REFLECTIONS / REFRACTIONS

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University Lowbrow Astronomers Monthly Newsletter

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## VEIL NEBULA - TWO-PANEL COMPOSITE

**BY GLENN KAATZ**

The image was captured in the Hubble palette using the following:

William Optics Z61 refractor and Z61 field flattener  
ZWO OAG with an ASI120mm mini guide camera  
ZWO electronic filter wheel with Baader 6.5mm Ha, ZWO 7mm OIII and SII filters  
Celestron GCX mount

38X5 min Ha, 40X5 min OIII and 42X5min SII exposures for a total integration time of 10 hours  
Processing was done with Pixinsight, RC Astro star, noise, and blurXterminators, and Photoshop. □



# THE NORTHERN SIGHTS\*

## A BUMBLETOWN AURORA AND A SAR

BY DOUG SCOBEL

The first weekend this past October found my wife and I visiting her cousin who lives just north of Calumet, Michigan. For those who are unfamiliar, Calumet is about half an hour north of Houghton/Hancock, near the southern end of Upper Michigan's Keweenaw Peninsula. In fact, the Keweenaw is an island, separated from the rest of the U.P. by the Portage Waterway. The Keweenaw is reachable from the south by car only by crossing the massive lift bridge which connects the cities of Houghton on the south with Hancock on the north. If that bridge were ever to go out, then almost the entire population of Michigan, save those in the Keweenaw, would be stranded!

Okay, enough of the geography lesson. But you're probably thinking where is Bumbletown? Bumbletown is a little crossroads of a village a few miles north and east of Calumet. Last time I checked its population is about 40. Just outside the village to the northwest, there is a little hill with a communications tower. The hill provides a spectacular view of Lake Superior by day, and a great place to view the sky by night, including aurorae. Whenever there's a good chance of aurora that's where we head because our hosts' place is in the middle of the woods. Not a lot of open sky, including to the north. But it sure is dark!

As luck would have it, the nights of October 6 and 7, 2024 provided just such an aurora viewing opportunity. On the evening of the 6th we caught some hints of aurora from their front porch, so we headed up to Bumbletown Hill. But it was disappointing. There definitely was some activity, but not nearly as good as what was waiting in store for us the following evening.

The display on the night of the 7th was much more intense. Early in the evening, the activity was substantial, stretching from west to east. Not a lot of movement, but it was bright enough to see some color with the unaided eye. Here are a couple representative shots (above right)



Looking north over Lake Superior. The Little Dipper can be seen above and right of center, with the Big Dipper below center. The short, white line on the horizon at lower right is the collective lights on a freighter.



Another view to the north

So what is this SAR I mention in this article's title? While imaging the aurora with the communication tower in the foreground, I was naturally looking around in all directions to see what was visible. I noticed a faint band almost due south, pretty much isolated, and relatively close to the horizon. I decided to photograph it. (See page 3.) My eyes couldn't detect any color, but to my surprise, it was a deep red in the camera's review screen. No greens, nor any other colors for that matter. Just red. Another peculiarity is that it was separated from the rest of the aurora which barely made it to the zenith. Strange.

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

## NORTHERN SIGHTS continues ...

More about the odd red band later. Once the aurora started to subside, we headed back to Deb's cousin's place. We noticed that the aurora was really kicking up now, reaching up past the zenith, and lots of movement! I stayed up past midnight, and could have stayed up all night, but the warm bed was beckoning. So after taking scores of images, I retired "early". When we got up the next morning it was still dark, and the aurora was still going! Faintly, but it was still there.

Back to the red arc. After sharing my photo with Adrian, we thought it might have been a STEVE, but then he suggested it might have been a SAR. A SAR, a name given to this phenomenon that sometimes occurs along with strong aurorae, like STEVE, is not an aurora. The acronym stands for Stable Auroral Red [arc]. Also like STEVE, SAR is a sign of heat energy in the atmosphere; aurora is fluorescence of gasses in the upper atmosphere after being excited by high-speed charged particles emitted by the sun and funneled into the earth's poles. Also, SAR is often detached from the aurora, as was the example I captured. After a casual search of the Internet, I only found a couple of brief articles regarding SAR. I'll leave finding out more about SAR as an exercise for the reader.

Considering the dearth of information on these phenomena, it appears that SAR and STEVE are not completely understood. And they're definitely not common. I feel fortunate to have captured good examples of both! □

**\*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 I'm much more likely to 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 our intrepid and dedicated editor has to cobble together "articles" from you, assembling emails and photos from various posts. If you're going to the trouble of writing an extended email, why not submit it as an article? Amy will surely appreciate it as it will make her job a LOT easier!



**View to the south, with a SAR!**



**The view from Deb's cousin's front yard. The aurora extended way past the zenith!**



**STEVE captured in September of 2023, from the northern tip of the Leelanau Peninsula in northwest Lower Michigan.**

## 2025 OPEN HOUSE & OTHER EVENTS SCHEDULE

March 22 and/or 29: Messier Marathon  
(Peach Mt. or Lake Hudson)

April 5: Moon & Mars night (at AADL)

April 26: Peach Mountain

May 3: Moon & Mars night (at AADL)

May 24 and 31: Peach Mountain

June 21 and 28: Peach Mountain

July 19 and 26: Peach Mountain

August 16 and 23: Peach Mountain

September 20: Peach Mountain

September 26 and 27: AATB (at Island  
Lake State Recreation Area)

October 18 and 25: Peach Mountain

November 15: Peach Mountain



**WE BOUGHT A  
SEESTAR 50!  
AND YOU CAN  
BORROW IT**

If you're interested in borrowing the scope or have questions, contact Amy Cantu at [cantu.amy@gmail.com](mailto:cantu.amy@gmail.com). Check out the Full Review on YouTube below.



Ginia Forrester took this photo of the Aurora at Haehnle Bird Sancturay in October.



# THE STAR PARTY MUST GO ON

BY ADRIAN BRADLEY

This is a condensed version of my article which I've submitted for review by Astronomy Magazine. In it, I wanted to explore the reality of star parties that face concerns of viruses that spread among those who attend. The article came from a comment posted to the 2024 Okie-Tex Star Party's Facebook page. Someone who went to that star party posted that it would be his last one at Okie-Tex. He proceeded to describe the miserable time he had spent after contracting norovirus, which was rampant during the last few days of the star party. After getting home and staying quarantined in his mobile home, he then tested and found that he also had COVID and had to do more quarantining in his mobile home to protect his wife who had a compromised immune system. He didn't enjoy the comforts of home for at least two weeks if not more. His decision was to forego attending star parties to avoid something like this happening again.

Not all of us experienced such a fate when we came home. In fact, not all of us contracted norovirus. But I can think of a dear friend who did, and is probably reading this article (so you know how tough those final days of Okie-Tex were, and you remember how it altered our plans for the trip home.)

## PROACTIVE STEPS FOR STAR PARTIES

What follows is a series of steps that I think the star party should take, not just Okie-Tex, but any star party that wants to proactively handle the threat of illness. We are no longer in 2019 or before, when we would boldly proclaim that we earned the right to be in this world with how much we fought its viruses, illnesses, and other pathogens while the invading Martians got sick and died. We are living a reality in which attendees of star parties are much more likely to be over the age of 60 and are far more likely to develop serious health issues if they catch diseases that the average 21 to 30-year-old shrugs off. However, in the case of SARS-CoV-2, there was severe illness among those 21-30 year olds as well.



## The Milky Way from the Okie-Tex Star Party

Until we turn this demographic over, and even afterwards, I think that star parties should consider providing the following:

- Contact information for the nearest medical facility to the star party. In the case of Kenton, Oklahoma, where the nearest medical facility may be located 50 miles away, it may benefit from having a trained nurse or clinician on staff to assist those who may get badly ill during the star party. A bonus here would be to have a doctor that also loves astronomy!
- A large first aid kit in which aspirin, pain reducers, allergy medications, and anything else that can aid in recovery could be made available.
- Validate that the chosen food service provider has processes in place to keep a clean kitchen, works with gloves, and takes other preventative measures to reduce the spread of any food-borne viruses and requires its employees to stay home if they feel sick.

## CAN WE DO SOMETHING TO REDUCE THE IMPACT OF A VIRUS TO OURSELVES?

As star partygoers, it is also helpful if we anticipate that there might be an illness that could spread. We need to prepare for that possibility. Star parties may not worry about implementing safer measures to combat illness in the next couple of years. So it is up to us to:

**STAR PARTY continued on p. 6**

**The Embryo Nebula (NGC1333). by Awni Hafedh. Awni capture  
84 x 10-min subs over two years for a total of 14 hours.**

### **STAR PARTY continues...**

- Bring any medicines that you can take to combat symptoms of respiratory viruses or allergens that may be present at any time during the star parties.
- If you have no problems wearing P.P.E., bring it.
- Any indoor activities should be approached with the amount of caution you feel it deserves. If your health system is compromised, consider reducing the time indoors.
- Bring enough food to prevent dependency on the hired food service. Consider snacks that you won't mind eating in place of the offerings from the food service.
- As an alternative, have someone pick up food for you who is willing to go and get it. It's safer to have them bring it back to your scope or rig.
- Try to get some good sleep and exercise during the star party. Those dark skies will tempt us all to stay up multiple nights in a row. The 2024 Okie-Tex party was exceptional, with every single night presenting a clear sky. Once the body gets run down, illnesses that may be floating around can affect us a lot more than normal. The norovirus had plenty of worn-out, exhausted 'targets' because we were all more than happy to stay under the light of the Milky Way, even if it wasn't as brilliant from one day to the next!

The demand for star parties is not likely to go away soon, and neither are viruses. While it's a great idea for star parties to anticipate and prepare for this, it's even better if we do our part to make sure we aren't severely impacted by a virus that wants to ruin as many people's star parties as it can.

For many of us, the idea of being in darker skies than we see at home will always draw us out to view them with a couple hundred like-minded individuals who feel the same way. Plus, we enjoy sharing the night sky with someone who may be new to it or has never seen certain parts of the night sky before the way dark sites present them. Our last trip netted up to four new members on the spot because they didn't mind being a part of our group and really enjoyed what we had to offer in terms of company, knowledge of space/time, and our willingness to share our views of the universe with them. This won't happen if we let illnesses stop these moments before they can occur. ☐



## **UPCOMING MEETING SPEAKER SCHEDULE**

### **December 20: Gary Nichols**

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

### **January 17 David Gerdes, UM**

#### **Astronomy**

Topic: What's Beyond Neptune?  
Search and Discovery in the Outer  
Solar System

### **February 21: Jeff MacLeod,**

#### **NASA/JPL Solar System**

#### **Ambassabor**

Topic: TBA

### **March 21: Dr. Richard Goodrich**

Topic: Fear and Loathing in the  
Heavens

### **April 18: TBA**

### **May 16: TBA**

## University Lowbrow Astronomers - Meeting Minutes November 15, 2024 7:30pm - revised

Our meeting at the Detroit Observatory was called to order by Charlie Neilsen at 7:40 PM.

Dr Dragan Huterer of the University of Michigan gave a very interesting talk: "Dark Energy Two Decades on, the Universe Caught Speeding" on the history and current state of our understanding of Dark Energy (which is very different from Dark Matter). Dr Huterer is a cosmologist and a member of the DESI "telescope" team which is collecting 1 million sectra from galaxies to precisely determine the expansion history of the universe. His website at U of M is: <https://public.websites.umich.edu/~huterer/>

Our business meeting began at 8:50 PM

Charlie presented Jim Forrester's proposed open house and event dates for 2025. There was discussion about club support of our open houses, and the need to reserve dates in 2025 for some cancelled events from 2024. Fridays may be the night for these group events.

March 22 and/or 29: members only Messier Marathon dates - (Peach Mt. or Lake Hudson)

April 5: Moon & Mars night (at AADL)

April 26: Peach Mountain Open House

May 3: Moon & Mars night (at AADL)

May 24 and 31: Peach Mountain Open Houses

June 21 and 28: Peach Mountain Open Houses

July 19 and 26: Peach Mountain Open Houses

August 16 and 23: Peach Mountain Open Houses

September 20: Peach Mountain Open House

September 26 and 27: AATB (at Island Lake State Recreation Area)

October 18 and 25: Peach Mountain Open Houses

November 15: Peach Mountain Open House

Every lowbrow member should plan to attend at least one of our open houses in 2025.

The officers have discussed purchase of a ZWO Seestar smart telescope for the club that could be used at open houses, or loaned to members. Amy Cantu has experience with this model and has agreed to be the steward of the scope. Jim Forrester made a motion that the club authorize treasurer Doug Scobell to purchase the scope. Charlie seconded. The motion passed.

VP Brian Ottum offered to be a speaker if needed in 2025.

VP Ken Cook has two return speakers available but not scheduled for 2025.

Treasurer's report from Doug Scobell via email:

We have 212 memberships, compared to 207 in August

We spent:

\$420.16 to OD Jack Brisbin to replace the Argo Navis in the observatory \$45.04 to VP Don Fohey to replace the battery charger for our Cave 8" f/7 Dob \$1150.00 to the Astronomical League to purchase 25 each of the RASC 2025 editions of their observer's calendars and handbooks

\$250.00 to Dark Sky International for our annual membership

\$15.85 per month to AT&T to maintain our Open House "hotline"

Total of \$23.67 to Newsletter Editor Amy Cantu for printing and mailing expenses

Observatory Director Jack Brisbin reported that the McMath observatory has been closed for the winter, and heaters have been turned on. Former lowbrow Stewart Cohen donated a pair of Orion binoculars for use at our open houses.

Jim Forrester commented that our next meeting is not featured on the home page of our website, and that would be useful information for visitors.

Similarly, Christine Cook, our Ann Arbor Observer liaison, noted that our meeting was not listed on the Observers website and hopes to correct that for future events.

Amy Cantu, Jeff Kopmanis, and Krishna Rao were not present at the meeting.

Doug Nell made a motion to adjourn, Jack Brisbin seconded.

Business meeting adjourned at 9:10 pm

Our December 20th meeting will be held at the Detroit Observatory beginning at 7:30 PM.

Speaker: Gary Nichols, Topic: "How Smart Are They? A Comparison of the New Breed of All-in-One Smart Telescopes"

Minutes respectfully submitted,

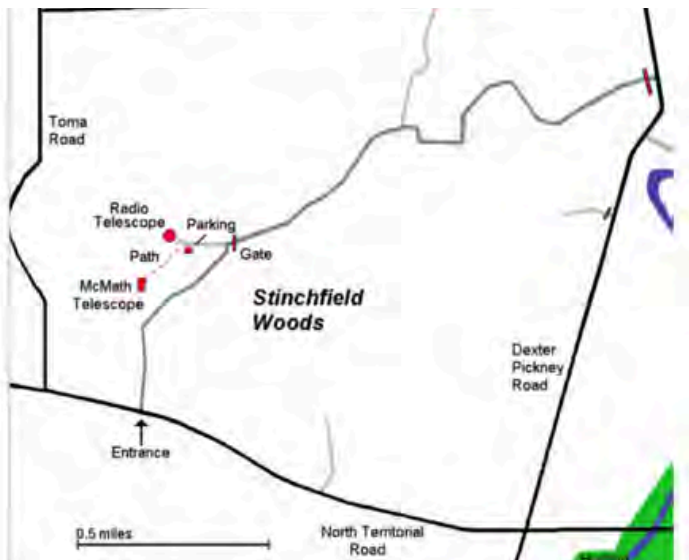
Ken Cook, VP



## 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](mailto: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](mailto: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.

### Telephone Numbers:

President:	Charlie Nielsen (734) 747-6585
Vice President:	Don Fohey Brian Ottum Ken Cooke Dmitri Tshelnik
Treasurer:	Doug Scobel (734) 277-7908
Observatory Director:	Jack Brisbin
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](mailto:Lowbrow-members@umich.edu)



# University Lowbrow Astronomers

