REFLECTIONS / REFRACTIONS

University Lowbrow Astronomers Monthly Newsletter

January 2022, Vol 46, Issue 1

Inside this issue:

HORSEHEAD IN SII, H-alpha, OIII (SHO)

BY GLENN KAATZ

This is an SHO version of the Horsehead and Flame Nebulas surrounding Alnitak, the bright star at the eastern end of Orion's belt. Sigma Orionis is to the upper right of Alnitak. Sigma Orionis is a multiple star system consisting of five gravitationally-bound stars. The brightest star of this group helps illuminate the gas and dust around the Horsehead Nebula.

I made this image by collecting 20 5-min H-alpha, OIII, and SII images for a total of 5 hours of integration. I used my Williams Optics 61 mm scope on a CGX mount and an ASI1600 MM pro camera. Guiding was off-axis with an ASI120 MM guidescope. I controlled everything from an iPad with an ASIAIR pro. Processing was Pixinsight and Photoshop. ▪

CONGRATULATIONS, ADRIAN!

Lowbrow member Adrian Bradley has recently become an official **Royal Astronomical Society of Canada (RASC)** Astroimager. Not only that, but one of his photographs just graced the cover of **Sky's Up Global Astronomy Magazine**'s December issue.

Presented here are two of Adrian's recent landscape photographs.

From Adrian: "The one at right was taken July 2, 2022, at Lake Hudson Dark Sky Preserve in the picnic (observation) area. The light domes from nearby cities wash out the Milky Way from getting down to the tree line.

The photo below was taken at the Okie-Tex Star Party in Kenton, OK. There is enough light from the Milky Way to produce a dramatic scene with cloud cover and the top of the mesa as part of the image." ▪

See more of Adrian's photos at the RASC site here: https://rascastroimaging.zenfolio.com/p765393748

AURORA IN THE SOO?

BY JEFF KOPMANIS

We were freighter watching at Sault Ste. Marie and I think we caught some possible aurora action going on above our eternal cloud layer. These two photos were taken when the effect was brightest. It eventually disappeared, but it would vary within a minute's time. I was a little skeptical of the red glow to the east (since I'd always seen green/blue), but the greenish glow to the west was more of what I had expected. Note in the westerly pic, the city glow in the distance is the airport. The skyglow (aurora?) was distinctly different and came and went over a 10 min period. Taken with a Samsung S20 FE with Night Mode (5s exposure). ▪

Westerly view

Easterly view toward Sault Ste. Marie US/Canada

UPCOMING MEETING SPEAKER SCHEDULE

JANUARY 21, 2022: Dan Durda, Southwest Research Institute, Boulder, CO. Topic: ***The Southwest Research Institute's Suborbital Research Initiative: First Flights with Virgin Galactic and Blue Origin***

FEBRUARY 18: Professor Claude Pruneau, WSU Physics Dept. Topic: ***What the LHC mini-bangs tell us about the Big Bang***

MARCH 18: Tentative Professor Michael Meyer, U-M Astronomy. Topic: ***The NASA/ESA/CSA James Webb Space Telescope: Discovery Space***

APRIL 15: Adrian Bradley, Lowbrow VP. Topic: ***The Dark Skies of Michigan***

MAY 20: Professor Rudi Lindner, U-M History. Topic: ***The Michigan-California Axis in Astronomy***

JUNE 17: Tentative Dr. Zachary A. Constan, MSU. Topic: ***"(almost) 14 Billion Years of Nuclei"***

FROM THE DESK OF THE NORTHERN CROSS OBSERVATORY: ROSETTE NEBULA

BY DOUG BOCK

This month I only opened up for one clear night and decided to give the Rosette Nebula complex a try with the 4" refractor. It's in a good position this time of year. The cluster and nebula lie at a distance of 5,000 light-years from Earth and measure roughly 130 light-years in diameter. The radiation from the young stars excites the atoms in the nebula causing them to emit radiation producing the emission nebula we see. The mass of the nebula is estimated to be around 10,000 solar masses.
The complex has the following New General Catalogue (NGC) designations:

- NGC 2237 – Part of the nebulous region (also used to denote whole nebula)
- NGC 2238 – Part of the nebulous region
- NGC 2239 – Part of the nebulous region
- NGC 2244 – The open cluster within the nebula
- NGC 2246 – Part of the nebulous region

William Optics 105mm f/7 APO refractor, ZWO asi2600MC PRO camera, gain 100, temp 0C, 85 x 180 second light frames, Losmandy G11 mount. ▪

COME TO NEXT GLAAC MEETING!

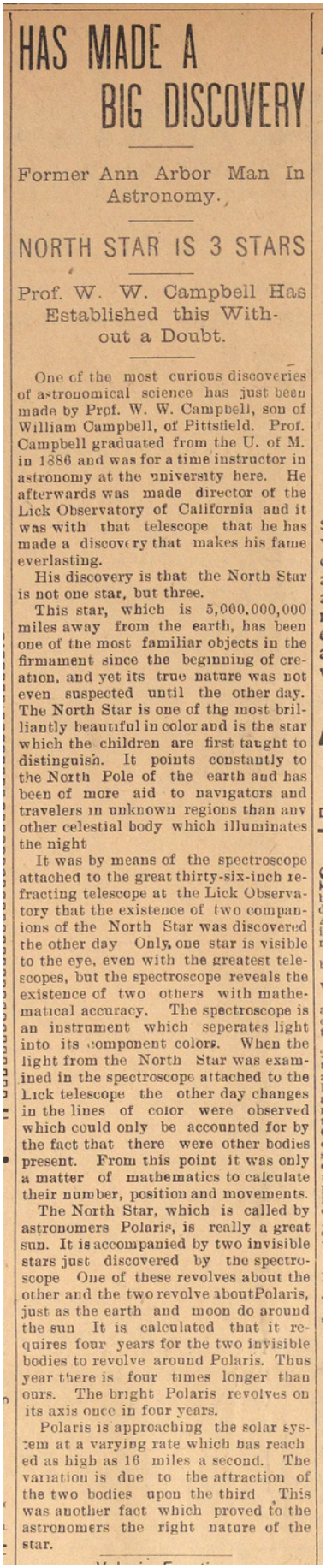
Join the 2022 **Great Lakes Association of Astronomy Clubs (GLAAC)** Board meeting via Zoom on January 13 at 7 pm.

The primary focus of the meeting is to elect officers for 2022 and discuss the format of the 2022 **Astronomy at the Beach (AATB)** event in September. AATB will be held on September 16/17, 2022, as decided by the Board in October 2021. The 2022 Board will make the decision on what type of event it will be: in-person, online, or a hybrid.

Join the Zoom Meeting
https://umich.zoom.us/j/584733345

Meeting ID: 584 733 345
Passcode: aatb22 ▪

YE OLDE ASTRONOMY NEWS



HAS MADE A BIG DISCOVERY

Former Ann Arbor Man In Astronomy.

NORTH STAR IS 3 STARS

Prof. W. W. Campbell Has Established this Without a Doubt.

One of the most curious discoveries of astronomical science has just been made by Prof. W. W. Campbell, son of William Campbell, of Pittsfield. Prof. Campbell graduated from the U. of M. in 1886 and was for a time instructor in astronomy at the university here. He afterwards was made director of the Lick Observatory of California and it was with that telescope that he has made a discovery that makes his fame everlasting.

His discovery is that the North Star is not one star, but three.

This star, which is 5,000,000,000 miles away from the earth, has been one of the most familiar objects in the firmament since the beginning of creation, and yet its true nature was not even suspected until the other day. The North Star is one of the most brilliantly beautiful in color and is the star which the children are first taught to distinguish. It points constantly to the North Pole of the earth and has been of more aid to navigators and travelers in unknown regions than any other celestial body which illuminates the night

It was by means of the spectroscope attached to the great thirty-six-inch refracting telescope at the Lick Observatory that the existence of two companions of the North Star was discovered the other day Only one star is visible to the eye, even with the greatest telescopes, but the spectroscope reveals the existence of two others with mathematical accuracy. The spectroscope is an instrument which seperates light into its component colors. When the light from the North Star was examined in the spectroscope attached to the Lick telescope the other day changes in the lines of color were observed which could only be accounted for by the fact that there were other bodies present. From this point it was only a matter of mathematics to calculate their number, position and movements.

The North Star, which is called by astronomers Polaris, is really a great sun. It is accompanied by two invisible stars just discovered by the spectroscope One of these revolves about the other and the two revolve about Polaris, just as the earth and moon do around the sun It is calculated that it requires four years for the two invisible bodies to revolve around Polaris. Thus year there is four times longer than ours. The bright Polaris revolves on its axis once in four years.

Polaris is approaching the solar system at a varying rate which has reached as high as 16 miles a second. The variation is due to the attraction of the two bodies upon the third This was another fact which proved to the astronomers the right nature of the star.

From Amy Cantu:

The historical article at left is from the September 22, 1899 issue of the **Ann Arbor-Argus Democrat,** available through Ann Arbor District Library's **Oldnews** site.

(Source: https://aadl.org/node/163077)

Campbell would go on to be the director of the Lick Observatory from 1901-1930. He was also known for his work on solar eclipse photography. Unfortunately, Campbell had a sad ending. In 1938, he committed suicide in San Francisco at the age of 76. He was mostly blind, suffering from periods of aphasia, and he was concerned about becoming a burden to his family. ▪

(Source: Wikipedia)

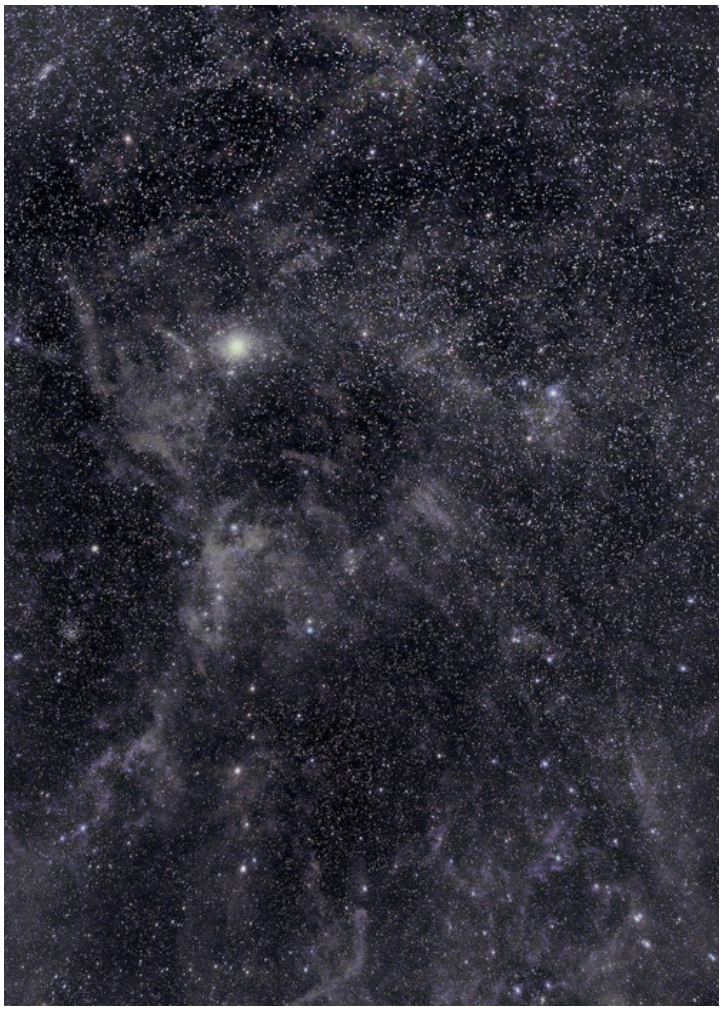
Photo of William Wallace Campbell, January 1905. (Public Domain. Source: Wikipedia)

ASTROPHOTOGRAPHY TIP OF THE MONTH

For inspiration when planning your photographs of the constellation Orion, you can't beat amateur astronomer Matt Harbison's remarkable 200-panel mosaic. The result of 500 hours of imaging and including over 2000 individual images, the mosaic is available in glorious detail and full resolution at both links below. (The version at Astrobin includes a plate-solution overlay.) ▪

https://spaceforeverybody.com/Orion/

https://www.astrobin.com/full/qytnfo/0/



The Polaris Flare, by Amy Cantu
Taken June 12, 2021. 6D Mark II. Rokinon 135mm lens. 215 lights @ 60 seconds, 50 darks, 50 flats, 100 bias. 1600 ISO. f/2.8. Skywatcher Star Adventurer 2i. Processed with APP & Photoshop.

University Lowbrow Astronomers – Meeting Minutes, Dec 17, 2021

This was a virtual meeting via Zoom, and recorded on You tube.

President Charlie Nielsen opened the meeting at 7:35pm. He introduced fellow member Don Fohey who gave a fine presentation of the timeline and activities of New Horizon's mission past Jupiter to Pluto and beyond. Doug Scobel will be sending a T-shirt to Don as a thank you for his talk.

Business meeting:

- **Charlie** talked about the decision to hold this meeting via Zoom.
- Member **Harry Anderson** reported that continuing the ACNO acronym was overwhelmingly supported.
- VP **Joy Poling**. Did not attend due to exams the next day.
- VP **Adrian Bradley**. Did not attend but emailed the following report: **1.** I'm officially a RASC Astroimager! My site is among many good ones at Zenfolio | RASC Astroimaging | Wide Field . There are other galleries of other types of astroimaging on that page as well. **2.** I've been asked to be on the cover of the next 'Sky's Up' magazine which can be found here: Sky's Up Global Astronomy Magazine — Explore Scientific LLC (explorescientificusa.com) **3.**Karim Jaffer and I continue to be mainstays at the Explore Scientific Global Star Party which happens on Tuesday nights. The link for that is https://explorescientific.com/live, or follow Explore Scientific on YouTube and Facebook. I have been known to wear a University Lowbrow Astronomers hoodie during my presentations. **4** .Is there a possibility of a Lowbrow get-together (safely of course) among football fans and alumni in the club to cheer on our team in the playoff game(s)?
- Communications Coordinator, **Jeff Kopmanis** reported that there will be a Communications Committee meeting in January.
- Member **Kathy Hillig** suggested that Fred Schebor would be a good candidate for our Dec, 2022 meeting speaker giving another Artsy-Meaningless Slide Show.
- VP **Dave Jorgensen** reported that 3 speaker slots are unfilled for 2022: July 15 (**John Walbank** will contact Senator Gary Peters), November 18 (Dave will remind **Charlie** to contact Br. Guy), December 16 (**Charlie** volunteered to contact Fred Schebor to ask for an Artsy presentation).
- VP **Liz Calhoun** reported that she has keys to Peach Mountain. She has the RASC handbooks and is ready to distribute them. As both Doug Scobel and Liz reported, the RASC calendars have not arrived.
- Treasurer **Doug Scobel** reported that he will be contacting RASC about the delay in receiving the calendars. We have 173 members and $11642.37 in the treasury. He paid Dave Jorgensen $80 for keeping the 17.5" scope in his workshop for the last 2 years. He is willing to offer the treasurer's job to someone else at our April meeting and emphasized the need for Excel proficiency.
- Observatory Director **Jack Brisbin** provided photos of the observatory. Tree removal has been done by many members and the East and Southeast views of the sky are now much better.
- Member **Norbert Vance** reported that his acquisition of a new 8" scope provided great images of M31.
- Member **Doug Warshow** was concerned about maintaining the Ann Arbor PO box since he will be out of town for a while. **Doug Scobel** said it was not an issue.

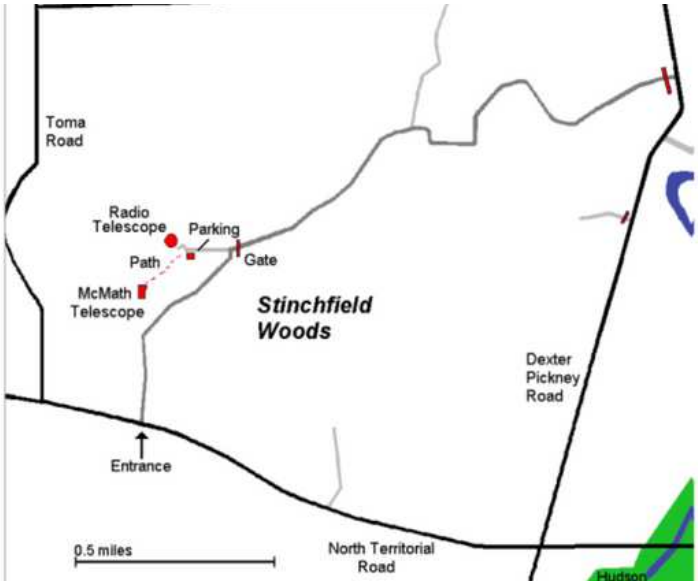
Charlie closed the meeting at about 9:30 pm.

Submitted by VP, Dave Jorgensen

PLACES & TIMES

Monthly meetings of the University Lowbrow Astronomers are held the third Friday of each month at 7:30 p.m. The location is usually Angell Hall, ground floor, Room G115. Angell Hall is located on State Street on the University of Michigan Central Campus between North University and South University Streets. The building entrance nearest Room G115 is the east-facing door at the south end of Angell Hall.

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.

MEMBERSHIP

Annual dues are $30 for individuals and families, or $20 for full time tudents 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). You can have the newsletter mailed to you with an additional $18 annual fee to cover printing and postage. Dues can be paid by Venmo, PayPal, or by mailing a check. For details about joining the Lowbrows, contact the club treasurer at: lowbrowdoug@gmail.com

Lowbrow members can obtain a discount on these magazine subscriptions:

Sky & Telescope - $32.95/year
or $65.90/2 years
Astronomy - $34.00/year, $60.00/2 years
or $83.00/3 years

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.

Telephone Numbers:

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	Joy Poling
	Liz Calhoun
	Dave Jorgensen
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.

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

Email to all members
Lowbrow-members@umich.edu

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