University Lowbrow Astronomers
Ann Arbor, Michigan
REFLECTIONS / REFRACTIONS
University Lowbrow Astronomers
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Astronomy at the Beach 2020

After the Dust Settled

By Jeff Kopmanis

The Setup

As many of you know, the Great Lakes Association of Astronomy Clubs (GLAAC) annual **Astronomy at the Beach** (AATB) event became an online event in June due to the ongoing Covid-19 pandemic. Many options were considered for an in-person or even a hybrid event, but they all pointed to severe problems maintaining the safety of the astronomers, presenters and the public. The GLAAC board went into overdrive assembling a lineup of remote live viewing events when the Webmaster, Bob Trembley of the Vatican Observatory Foundation and member of the Warren Astronomical Society (WAS) managed to secure commitments to present from **David Levy, Br. Guy Consolmagno, Dan Davis, and Delores Hill**. With these national and international headliners, the GLAAC member clubs jumped to the cause and began to fill in the schedule with a wide variety of demos, presentations and talks so that by the August meeting, we had an event of **44 events**! Brian Ottum, the GLAAC Communications & PR officer, went into overdrive to get the word out. The online events were presented with Zoom and live streamed to YouTube which the general public could link to from the GLAAC AATB 2020 web site. Whew! To say the least, the Board members were confident yet plenty anxious about how it would all turn out, as this was a big event to pull off online.

Off To The Races…

Everyone braced as the first events at 3pm on Friday kicked off: **Awni Hafedh** (Lowbrows) put on an H-alpha solar live demo and **Paul Goelz** (WAS) demoed white-light solar. Each event had a Host to get the final Zoom configurations set, turned on the Live Stream transmission and then waited for the start time to start the YouTube live stream event. The first few events went very smoothly, just like clockwork. We'd setup a Facebook Messenger "AATB Ops" chat channel that proved to be instrumental in communicating "behind the scenes" when problems arose. It quickly became evident that we'd scheduled things pretty tight, so while there was some sweating and urgency in the 7:30-9:30 slots, the issues were worked out and by 9:30pm everything was back on schedule. The chat channel was indispensable.

Saturday afternoon at 1pm, we had a "problems and fixes" meeting to learn of the issues that came up, and devised solutions that addressed the problems. Saturday's events ticked by one after the other virtually without incident and almost completely on-time. Unfortunately, due to our old adversary, Mother Nature, who brought with her clouds and wildfire smoke, the live events were largely converted to demos and on-the-fly talks. By midnight, the Board members all sat back in their chairs (and probably cracked open a beer) and smiled at what they'd accomplished.

Early Readings

Jeff Kopmanis, the GLAAC Secretary, spent Sunday pouring through the YouTube Analytics collecting usage numbers and statistics for each of the GLAAC-created YouTube events, and what was publicly available from the events that used their own resources (the Ford club, and 3 of the member sessions). All told, there were some **3939 views** and some **664 hours of view time** of our YouTube event videos for those 2 days. Most events had an **Average Duration** of about **15 minutes**, which sounds weirdly low until you consider that we had events lasting as little as 25 minutes to others that were over 3.5 hours. In our YouTube Live Chat sessions we had **1035 messages** (during the live setting) and **42 comments** left and we gained **43 subscribers** to the video channels.

The top 10 sessions were as follows (# of views in parens):

1) Brian Ottum (Lowbrows) - Live from NM - Fri (305)
2) Doug Bock (Lowbrows, WAS) - Live from Hartland, MI - Fri - (303)
3) Awni Hafedh (Lowbrows) - H-alpha Solar - Fri (251)
4) Br. Guy & Dan Davis - Turn Left at Orion - Sat (242)
5) Samir Hariri (Farmington) - View the Moon - Fri (238)
6) Don Swetzig (Lowbrows) - EAA from Pinckney - Fri (163)
7) Paul Goelz (WAS) - Visual Light Solar - Sat (161)
8) Awni Hafedh (Lowbrows) - H-alpha Solar - Sat (143)
9) David Levy (WAS) - Poetry of the Night - Fri (133)
10) Diane Hall (WAS) - Binocular Astronomy - Fri (131)

Clearly, Live events are a serious draw!

Positive comments, congratulations and Thank Yous rolled in all day on Sunday from club members, friends, family and the general public. Between our statistics and the plethora of glowing comments, it's safe to say that AATB 2020 was solidly in the "Success" column!

Conclusions

AATB 2020 Online was a success. It was plainly evident that the Board and volunteers worked together as a **team** and that it was absolutely critical when things weren't going smoothly. It would have been a disaster otherwise. There were a number of administrative and organizational lessons that became clear and were documented for the upcoming "Debrief" meeting on October 8. It also became clear that some kind of online component will be present in AATB 2021, even if in-person is possible. If you didn't get a chance to see the events, they will remain online at:

https://glaac.org/astronomy-at-the-beach-2020

Observatory Building Painted

The Final Adventure in Scrape, Paint and 90 degree weather.

By Jack Brisbin

We started working on the Observatory last year and finished painting the I beam roof support and the Observatory roof. If you are interested in what kind of work was completed, then go to the Lowbrow website and click on the Newsletter link and open the October 2019 issue. The newsletter article "Observatory Building Repair".

This year we focused on painting the Observatory building. The broken/cracked concrete blocks were repaired a couple of years ago. We started with scraping and grinding the old paint off the concrete block. This building was built around 1959. I would like to thank Doug Nelle and Tom Ryan for giving up their weekends to help with this project.

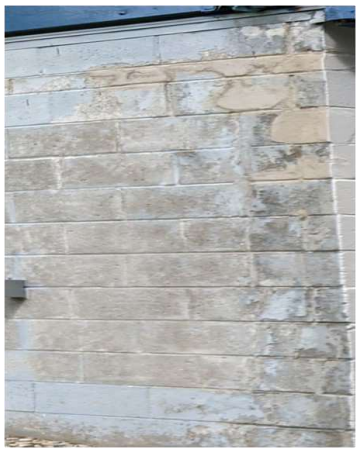
We started grinding the block with 4" angle grinders with 24 and 36 grit aluminum oxide disks and using hand drills with other types of grinding tools. We wore masks because the grinding dust will cover your face in seconds and Covid19 compliance. By now you are probably wondering about the 24 inch McMath telescope in the Observatory. The following picture will show our actions. The type of grinding equipment we were using will spray dust everywhere, any openings in the building and roof sections, dust will sneak in. I did cover the 8 inch f/7 but it does not show it in this picture

As an example the picture on the right shows the south wall that has the outdoor outlets. We removed the paint down to the surface of the block. Because of the porosity on the surface it looks rough. When we finished grinding we used a compressor to blow the grinding dust off all the walls. So we can start to use the primer paint and fill in the surface impressions and create a good adhesion for the finish coat of paint. The finish coat is a two coat process, but you have to wait 24 hours before you can apply the second coat. This means we will be back next weekend because of coating time and weather conditions. The paint chart

The Elastomeric paint can stretch up to 600% and resist cracking this will help with the cracked block and the surface repaired block around the building walls. This is very prominent on the south east corner of the building by the Observatory door.

Based on the manufacturer this paint can withstand 98 mph wind driven rain. This should help with keeping water out of the concrete block and creating a dryer / less moisture and lower humidity atmosphere inside the Observatory building. After the paint survives a few winter weathers, then we will know the real outcome of our strategy.

Below is an example of what we were concerned about. The picture on the left is the rough ground surface with the block repairs and cracked block showing. On the right is the finished double coat surface. When you stand close to the surface it looks like a plastic coating and feels smooth.



The final two pictures show the finished Observatory building painted. Once again I would like to thank Doug Nelle and Tom Ryan for giving up there weekends and donating their time and equipment to finish this project. I also would like to thank the club member that wished to stay anonymous for his/her financial contribution to help pay for the paint…thank you!

Review of Celestron's StarPointer Pro

By Jeff Kopmanis

Last month, the red-dot finder that came with my trusty Orange Can (Celestron NexStar 8SE SCT) went belly-up. It had all of the neck-twisting, squinty-eyed faults of most red-dot finders, and can be replaced for about $15. That's probably $10 more than it was worth.

Enamoured of the legendary Telrad finders, I checked them out. They're HUGE! Sticky-tape to mount them on my scope!? After reading some reviews of them and seeing what they offer, I started looking at other options...which immediately get very expensive, very fast.

I almost ditched the idea, but tripped on the **Celestron StarPointer Pro**. It sells for about $48, so while more expensive than a red-dot, it's still a reasonable price for something I use mostly for alignment. If you want to check out the specs, here's the company page: https://www.celestron.com/products/starpointer-pro

The StarPointer Pro ("the Pro") is a kind of "hybrid" between a traditional red-dot and the Telrad. It uses a rear-mounted laser to project onto a clearish, sorta reflective surface just like the red-dot finders, but in a nod to the Telrad, instead of that annoying dot, that tends to cover up your target at the precise time you'd like to be, say, "precise", the Pro gives you a Telrad-like pair of concentric circles to move over your target. They look like the photo to the right--very Telrad-like.

The next thing to like is that it uses the same mount as my former red-dot finder, so it literally bolted right on. They include a number of alternate mounts (one of which is shown in the picture above) if you don't have the Celestron mount on your scope. They also eliminated those annoyingly black-colored phillips-slotted screws that you couldn't see in the dark and invariably let your screwdriver slip out of. They replaced those deviant things with thumbscrews, admittedly with very smooth knurling, but a gift is a gift; they get a star for at least addressing the major issue.

I did a daylight alignment so that I'd be ready to go at the next clear night, which being in early September in Michigan might be a while. Sunny point #3: the horizontal and vertical adjustments are exceedingly easy to use, being big thumb-friendly knobs on the scope in the respective directions. It made it a snap to dial in.

Sunny point #4 manifested itself quickly, as the optical window to look through is double or more the diameter of the old red-dot…"40mm" according to Celestron. Combined with the concentric circles, this wide view means that you can get a decent view of the circles from a wider range of angles. Yes, you still have to be directly in back of the thing, but it'll save you the hassle of rubber-necking around until you see the center dot like those old red-dot finders. This made it easier to make sense of your orientation and get down to business. Because my driveway doesn't have "at least a quarter mile" view of anything, I tried a number of targets to dial in the alignment, but overall, it was a pleasure to use.

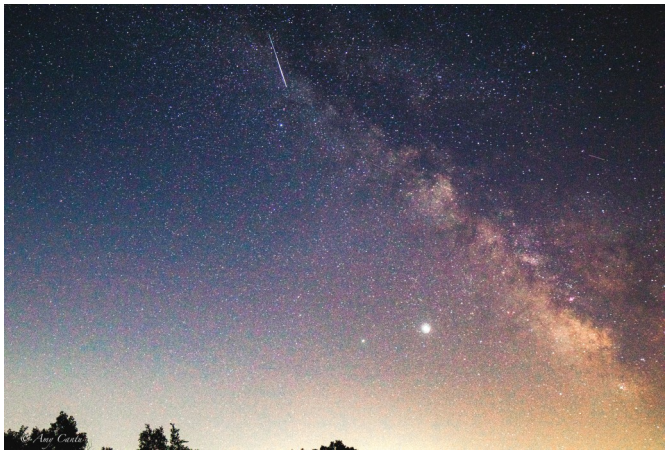
Lastly, while it's bigger than the old red-dot, I only had to remove another row of foam in my case to store it. Size was definitely as svelte as they could make it and still get the larger optical window.

In short, the **Celestron StarFinder Pro** was a solid pick, delivering on a number of improvements they made over older-style red-dot finders while keeping the size and price reasonable. Celestron's MSRP is $56, but $48 seems to be a pretty normal street price. (Editor's note: It does include a brightness adjustment knob.)

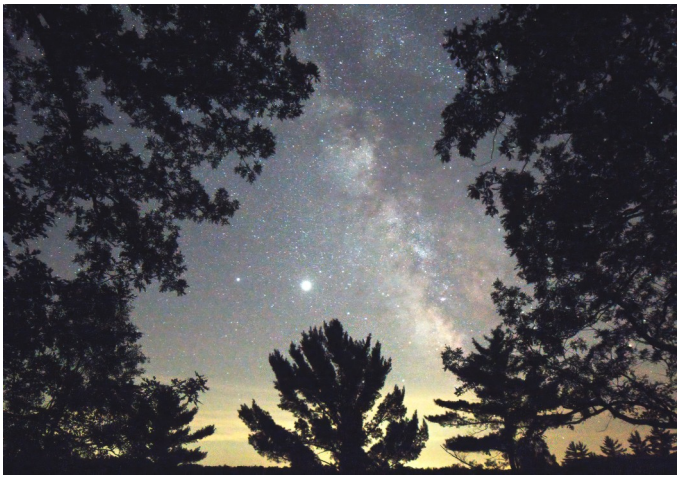
Adventuring into Astrophotography

By Amy Cantu

When Comet NEOWISE was here, I borrowed my son's DSLR and thought, This'll be easy! Well, it wasn't, and I took some truly terrible photos of a smudge of a comet against a dull sky with no stars. In the two months since then, I've been trying to learn how to shoot and process photos of the night sky. Thanks to YouTube and the advice and encouragement of some fellow Lowbrows, in particular Brian Ottum and Adrian Bradley, I can now take a night shot that contains stars! I still have a lot to learn, but I'm grateful there's so much ahead of me. It's good therapy for these strange times. My setup is a Canon Rebel t6 on a tripod, though I look forward to getting a tracker one day.



Taken during Perseid Meteor Shower in a farmer's field 20 SW of Ann Arbor, August 14th. (Rokinon 14mm, f2.8, 1600 ISO, 15 sec; Adrian helped bring out the color in this one for me.)



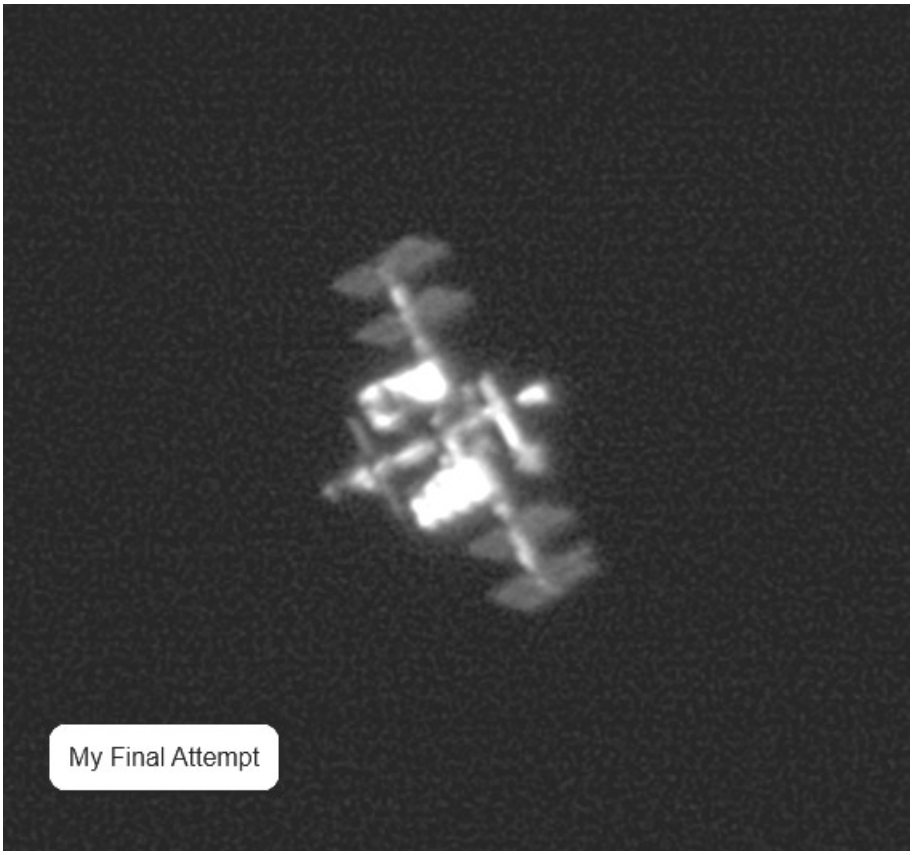
Taken in the Pine River Corridor, Manistee National Forest, August 21th. (Rokinon 14mm f2.8, 3200 ISO, 15 sec)

Taken in Manistee National Forest, August 19th. Rokinon 14mm f2.8, 3200 ISO, 15 sec, 20 light frames, 12 dark)

Andromeda Galaxy, taken in Manistee National Forest, September 18th. Canon 85mm f1.8 lens, 1600 ISO, 96 light frames, 30 dark, 2 sec)

Photo of the International Space Station

By Awni Hafedh



Awni Hafedh in an email to members explained how to take photographs of satellites. In part he wrote:

"July 29, 2020 – International Space Station

Recently I wanted to shift gears from DSO and Planetary imaging and switch to man made satellites and if it is even possible to image them without manually pointing your telescope at them and hope for the best." "Instead I wanted to see if I can make any mount/telescope track the ISS automatically and get a decent image without breaking my back trying to manually track it, so here is what I did as well as my results so far which I have to say I am pleased with. "

The Sept meeting was recorded and can be viewed on you tube

https://youtu.be/mymjaQX3bkk (Note Kerbal Space Program Intro, go to 14:33 or so for meeting start)

Upcoming Events

Open House events have been canceled until further notice.

DATE	EVENT	LOCATION	
Friday Oct 16th. 7:30 pm	Monthly Meeting	By Video Conference. Instructions will be emailed to members,	Professor August (Gus) Evrard, UM Physics and Astronomy , Galaxy Clusters

Lowbrow Minutes - September 18, 2020 Meeting

1) President Charlie Nielsen started the meeting at 7:35 PM by introducing our speaker, VP Adrian Bradley, who is also President of GLAAC, the organizing body for Astronomy At The Beach. Adrian, along with input from other GLAAC Board members that were attending, explained how they transformed a very popular annual in-person event into an online version. Details of how they planned to pull this off, and the guest speakers they have lined up, plus the schedule; were explained. The dates of the event are Sept. 25 and 26.

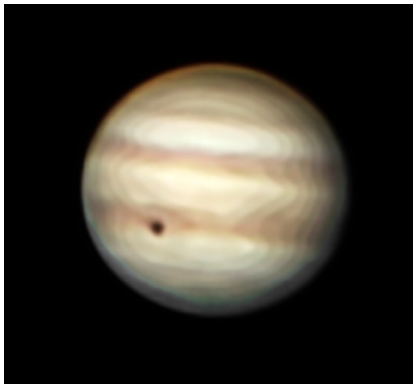
2) Charlie, Jeff Kopmanis, Adrian, and Kathy Hillig lead us through our first online election. This was to vote on a series of By-laws amendments. They were broken into four sections to vote on. We had 10 votes at the meeting, and Adrian received 10 absentee votes. The results were unanimous to approve, on all four sections. Charlie then followed this up by nominating Jeff Kopmanis to fill the newly created "On-line Coordinator" officer position that the By-laws amendments created. At least three club members seconded that motion. No others were nominated, so Jeff was elected by unanimous vote.

3) VP Jim Forrester spoke about his displeasure with the Great Lakes Stargaze organizers for holding the event during the pandemic. He and others noted that reports were that most attendees were not social distancing and not wearing masks.

4) Observatory Director Jack Brisbin reported that the repainting of the McMath Observatory Building has been completed, with thanks to his help from Doug Nelle and Tom Ryan. Jack also reported that he spoke with Professor Jamie Cutler at the radio telescope. Jamie's group is installing wireless internet and security cameras at the site to monitor activity at the radio telescope.

5) The meeting was adjourned at 9:05 PM. Attendance was 18.

Minutes prepared by Charlie Nielsen



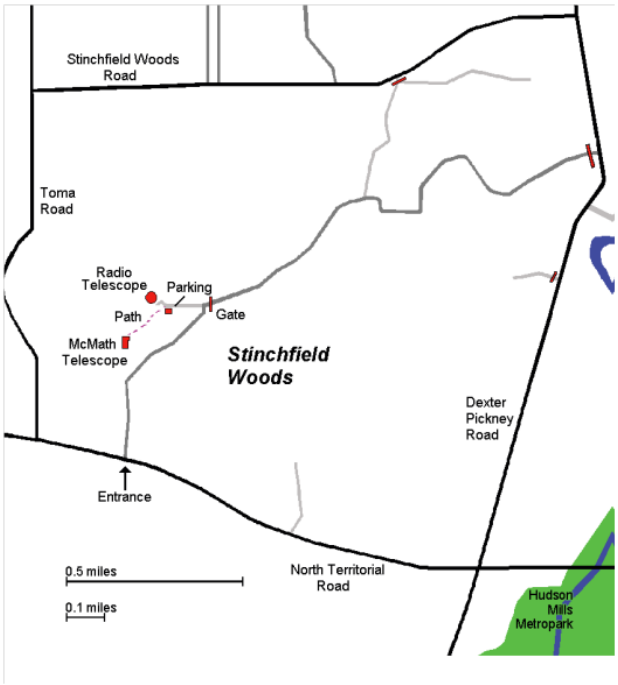
Glenn W. Kaatz, MD wrote in an email to members Sept. 20th:

"Here's images I captured of Mars, Jupiter, and Saturn last night. I used a Sony A6300 with prime focus and a 5X Barlow lens. Settings were different for each planet, but ISO generally was 1600 and exposure time 1/50 sec, and I captured 3000+ images using 1080p video. Images were processed using PIPP. Autostakkert, and Registax. I was really lucky to catch a Ganymede transit across Jupiter. Atmospheric stability was better earlier in the night than later. The Mars image was done at 1:30 AM, whereas the Jupiter and Saturn ones were done about 8:30 PM. I followed up the stacking with a bit of Photoshop touch-up."

Places & Times

Monthly meetings of the University Lowbrow Astronomers are held the third Friday of each month at 7:30 PM. The location is usually Angel 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 radio telescope, 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 cancelled if the forecast is for clouds or temperature below 10° F. For the most up to date info on the Open House / Star Party status call: (734) 975-3248 after 4pm. 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. Evening can be cold so dress accordingly

Lowbrow's Home Page

http://www.umich.edu/~lowbrows/

Membership

Annual dues are $30 for individuals and families, $20 per year for students and seniors (age 55+) and $5 if you live outside of the Lower Peninsula. Membership entitles you online access to our monthly Newsletters and use of the 24" McMath telescope (after some training). A mailed copy of the newsletter can be obtained with an additional $18 annual fee to cover printing and postage. Dues can be paid by PayPal (contact the treasurer to find out how) or by check made out to "University Lowbrow Astronomers" and mailed to:

The University Lowbrow Astronomers
P.O. Box 131446
Ann Arbor, MI 48113-1446

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 of $83.00/3 years
For more information about dues or magazines 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: Don Fohey donfohey@gmail.com to discuss format. Announcements, articles 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:	Adrian Bradley	(313) 354 5346
	Jim Forrester	(734) 663-1638
	Joy Poling	
	Dave Jorgensen	
Treasurer:	Doug Scobel	(734) 277-7908
Observatory Director:	Jack Brisbin	
Newsletter Editor:	Don Fohey	(734) 812-3611
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 each to the Observatory and the North Territorial Road gate to Peach Mountain. University policy limits possession of keys to those who 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

Member Club

Astronomical League Member Society
#201601, Great Lakes Region

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STAMP