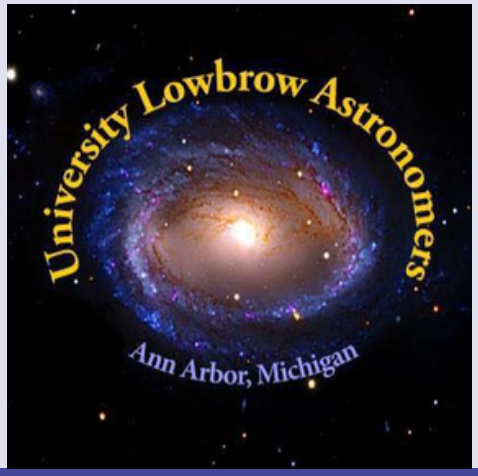
REFLECTIONS / REFRACTIONS

University Lowbrow Astronomers Monthly Newsletter

October 2022, Vol 46, Issue 10

Inside this issue:



ELEPHANT TRUNK NEBULA (IC1396)

BY GLENN W. KAATZ

See also Glenn's widefield version in this month's OL, with specs for both.

JUPITER & SATURN FROM YPSILANTI

BY JEFF KOPMANIS

I eagerly and repeatedly checked **Astrospheric** leading up to Thursday and Friday nights (September 8 & 9) which continued to look as if they'd be crystal clear with average or better transparency and seeing. Normal Michigan meteorological trends (i.e. clouds, clouds, and more clouds) did not emerge!

In anticipation of the return of an in-person Astronomy at the Beach, I got out my 8" Celestron SCT with a motorized Celestron focuser and planetary camera, a ZWO ASI183MC. I needed to get it out to find where to position the electric focuser so that I could use my Moonlight 2-speed focuser. Once I had everything out, why not take some images? I might add that I had to use a 4kg and an 11kg counterweight on my mount to balance the SCT, with the focuser motor, camera, and Moonlight focuser. The Moonlight is a wonderful, buttery-smooth focuser, but it is **massive**!

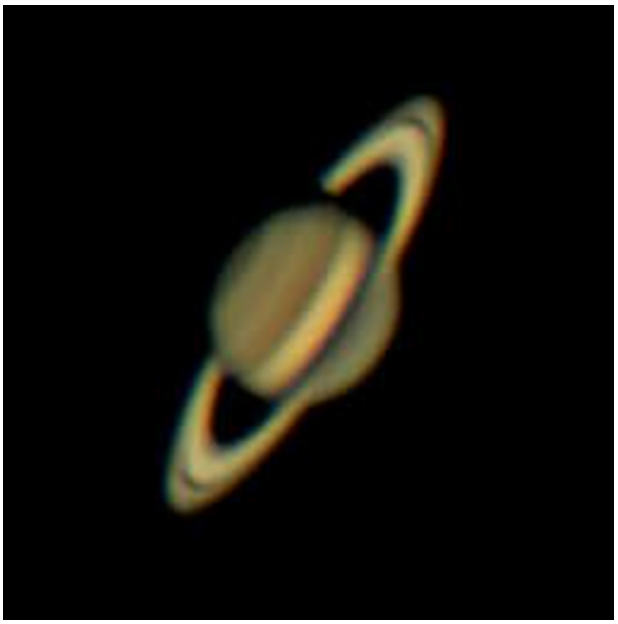
Both nights' skies were filled with light from a Full Moon (see photo, above right). It completely washed out any other stars in half the sky. It was a good night for some planetary imaging because "the bright stuff" was going to be all there was to see. Thursday night was cooler and drier than Friday night, and Friday night had some high clouds that would drift through, eventually overtaking the skies by 3 am. Over the two nights, I'd captured over 24 3-minute SER format videos for post-processing, each around 4GB, over 100GB of raw files.

As I'm chugging through my raw files, I'm finding that Thursday night was spectacular for Jupiter and "blech" for Saturn, while Friday was dismal for Jupiter and spectacular for Saturn. I've known for a while that Jupiter and Saturn are different when capturing them (different exposure times, and sometimes gain settings), but apparently, sky and humidity conditions change how things turn out as well. With its ruddy complexion and dimmer image, Saturn can be trickier to over- or underexpose than brilliant Jupiter.

Both Jupiter and Saturn finished photos were my best to-date, with the Jupiter image exhibiting jaw-dropping detail, even from my Moon-soaked, light-polluted driveway in Ypsilanti. Both were stacked with AutoStakkert!3 and finished with Registax 6. Here's the finished photos with their specs...

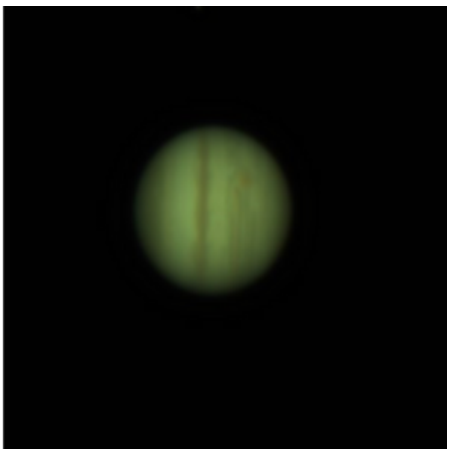
Jupiter - Sept 9, 2022, 1:00am - 28.74ms exposure, gain=111, 3213 frames, 50% used

JUPITER & SATURN FROM YPSILANTI continues, p. 3

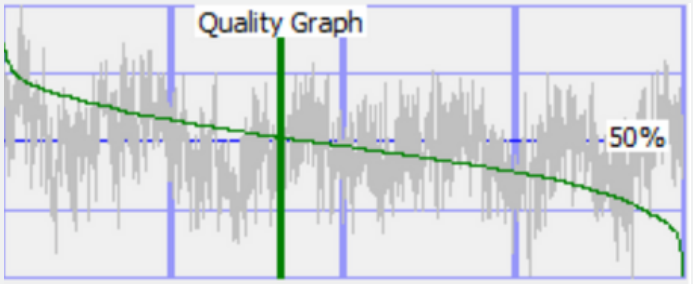


Saturn - Sept 9, 2022, 11:35pm - 93.04ms, gain=11, 1787frames, 52% used

And, in case you were curious, here's the stacked raw images before polishing with Registax. All of that detail had been captured, but it just needed some massaging. It's like a Christmas present - you never know what you'll get until you unwrap it!



- My ASI183MC camera seems to capture green really well, so I've had to tone down the green by 20% or more on every photo.
- FireCapture's "Auto-Guider" tool is super handy to keep the planet in your camera field. Here's a quickie tutorial video to give you an idea how it works: https://youtu.be/hoNJq_YmEtk
- AutoStakkert!3 gives you an analysis that shows image quality with a line that slopes down from high quality to low. (see below) They have a 50% line marked, and if you click on the graph, you can place the wide green line at certain points. The new trick I learned is using Ctrl-click: it will fill in the exact percentage where your bold line is and put that value into the form without guessing.



- After playing with this percentage thing, and for example, stacking at 20% and 40%, I'm finding that at 40% you may well get more noise, but if your data is good, you also get greater signal depth, which allows you to do more tweaking in Registax' wavelets before artificial noise and "over-processing" occurs. This all makes a lot of sense after Brian's tutelage on PhotoShop's Curves tool.
- Registax' Crop Area is handy when you're going to save your result to a file. You set the cropping area, and the export will write only the marked area, saving you from cropping with Yet Another Program.

■

URLs in the article:

Astrospheric - https://www.astrospheric.com/
AutoStakkert!3 - https://www.autostakkert.com/ - Free!
Registax 6 - https://www.astronomie.be/registax/ - Free!
FireCapture - http://firecapture.de/ - Free!
FireCapture AutoGuider tool tutorial - https://youtu.be/hoNJq_YmEtk

GREAT LAKES STAR GAZE 2002 REPORT

BY DON FOHEY

This was my first visit to Michigan's premier star party, the Great Lakes Star Gaze. It was the event's 20th anniversary and I left wondering why I had never attended before this year. Thursday night's sky was spectacular: It was cold, dry, and crystal clear, providing some of the best viewing I have ever had in Michigan. I logged over 30 objects viewing with my 14-1/4 Big Blue DOB. I shared eyepiece views with the astrophotographers set up near me. The late-night hospitality tent made for a good place to take a break and enjoy hot chocolate with a cookie.

One reason for the dark skies may be that the site is located in the middle of Amish country and they don't have those annoying yard insecurity lights so often seen on farmsteads. On Friday I toured the area, being careful when passing the horse-drawn buggies. I enjoyed a beautiful, clear fall day. At 7 pm Austin King gave a well-attended presentation on the discovery of Helium. As he finished his presentation the clouds rolled in. Many folks looking at the forecast for Friday and Saturday packed up and headed home but a good number stayed for the festivities.

Saturday was fun, Austin held a fishing contest for the kids. The winds were too low for the planned kite flying. The rocket launching began about noon. Many sizes and types were launched. Big high flyers disappear into the clouds, small black speedsters broke the sound barrier. There were countdowns with misfires, rockets that destructed shortly after launch, those that drifted away never to be found, and those that hit the ground faster than expected

Another part of the observing field, my Big Blue DOB is in the shiny emergency shelter foil.

when the main parachute failed to open. The rocket launching was enjoyed by all.

The afternoon swap shop was followed by a very entertaining liquid nitrogen demonstration. It focused on the properties of state changes, liquid to gas, liquid to solid (ice). The demonstrations made apparent the material selection requirements for space craft which must operate in the coldness of space. The door prize and an "eclipse kit" raffle closed out the afternoon. I made some new friends and had a nice evening visiting with them.

The star gaze is easy to attend. It is only 150 miles from Ann Arbor. You can stay in a hotel at nearby Gladwin or Harrison. You can pitch your tent on the observing field next to your telescope. You can stay in the RV park and walk up the hill to your telescope on the observing field as I did. There are a group of regulars who have RVs in an area of the RV park with a good sky view and observe from a grassy area between the RV rows. They are affectionately called the " bottom feeders".

Part of the observing field Friday afternoon after many had packed up and departed.

Amish wagon bringing baked good to be sold in the RV park.

GREAT LAKES STAR GAZE continues**,** p. 5.

GREAT LAKES STAR GAZE continues ...

Kevin Denhe and the GLSG board is to be commended for the outstanding work they have done for 20 years to create this exceptional star party. I will try and encourage more Lowbrows to attend next year.
http://www.greatlakesstargaze.com/

A final note: The River Valley RV Park will make the observing field available to individual amateur astronomers at other times of the year. Contact the park to make arrangements.
https://rivervalleyrv.com/ ■

This rocket disappeared into the clouds and returned de ploying a parachute at 200 feet and was easily retrieved.

This rocket came apart at launch.

Kevin Dehne is pouring liquid nitrogen from a dewer flask into an insulated bucket.

Kevin Dehne poses with his 3 engine rocket creation.

UPCOMING MEETING SPEAKER SCHEDULE

OCTOBER 21: Associate Professor Elena Gallo, U of M Dept of Astronomy. Topic: ***Seeing and Hearing Black Holes, (big and small)***

NOVEMBER 18: Professor Neil Cornish, Montana State University. Topic: **Pending**, but about ***Gravitational Waves***

DECEMBER 16: Fred Schebor. Topic: ***The Artsy-Meaningless Slide Show***

JANUARY 20: Dr. Guy Consolmagno, Director of the Vatican Observatory. Topic: **Pending**

FEBRUARY 17: TBA

MARCH 17: TBA

FROM THE DESK OF THE NORTHERN CROSS OBSERVATORY

BY DOUG BOCK

This month I headed up to the Great Lakes Star Gaze with my 105mm f/7 refractor on the G11 mount. I managed to acquire this image of M 33 in Triangulum using the ZWO asi2600mc pro camera.

The Triangulum Galaxy is a spiral galaxy 2.73 million light-years from Earth in the constellation Triangulum. It is catalogued as Messier 33 or NGC 598.

Acquisition details: 86 x 300 second light frames, 24 x 300 dark frames. 50 flats. ■

EARLY REPORTS & PHOTOS FROM THE OTSP

BY ADRIAN BRADLEY & NATHAN MURPHY

Photo by Adrian Bradley.

From **Nathan**, Day 1: "As I have done since 2012, I start the night exploring Caldwell 68 near NGC 6723, as the sky gets dark.

Baade's Window: NGC 6522+6528: neighbor (Bill Tschumi of Sky Safari fame) with 25x100 Fujinons recommended this pair. Observed with those, then in my scope. Nearby...

Djorgovski 2: one of the closest GC to us. Large,faint distant GC next to B86 & it's OC. confirmed, with a lot of effort and discussion in both my scope and neighbor's 18. I never thought there was such a thing as a low surface brightness GC, but here we are. From Comet C/2022 E3 ZTF: comet right by iota CrB. Excellent target! Brightish, 5-6' tail next to a few 'calibration' stars. My estimate, 12.6 < M < 12.9 (a bit fainter than the ephemerides) with closer study, tail extends to 9' or so.

vdB 1 and V633 Cass: vdB 1 is an obvious RN, but just to the west are 2 Herbig-Haron objects, the brightest is around V633. Very challenging, but just visible. Confirmed with several observers. Google Rainer Vogel YSO for observing guide.

Transparency was not as good as it can be here, but still dark as all get out. After my averted imagination adventures, I skipped around - M57 (IC1296 50% with AV - bad transparency...), double cluster, NGC55, Saturn and Jupiter to finish out a short but productive night. I was pretty wiped out from a day setting up in typical blistering sun and heat here in the desert."

From **Adrian**, Day 2: "We had clear skies for day 2 of Okie Tex. The night started off with Nate getting 5/6 moons of Saturn during the early stages of astronomical twilight. Then it was on to a comet in Scorpius, and other very faint fuzzies.

Myself, I finally got my scope to know where it was in the sky. I proceeded to look at a number of targets, including some I had never seen before and figured I could get easily here. I used my C11 on a G11 Losmandy mount. They included:

NGC 6603, mag 11.1 open cluster in the small Sagittarius cloud.
NGC 6642, mag 9 globular cluster next to big bad M22 in Sagittarius.

A trio of Lowbrows en route, in Clayton, NM. Photo by Nathan Murphy

EARLY REPORTS FROM THE OTSP continues**,** p. 8.

EARLY REPORTS FROM THE OTSP continues ...

Palomar 8, mag 11 globular cluster in Sagittarius
Pluto (!!) had to do it, currently in Sagittarius
Barnard's Galaxy, NGC 6822, mag 9 irregular dwarf Galaxy in Sagittarius
NGC 6818 - Little Gem Nebula, mag 9 planetary nebula in Sagittarius
NGC 7006, mag 10.56 globular cluster in Delphinus
NGC 6934, mag 8.8 globular cluster in Delphinus
IC 5148, mag 11 planetary nebula in Grus
NGC 6144, mag 9 globular cluster in Scorpius

Other bright objects that looked really good in the scope: M51, M2, M33 (hunted some H2 regions there, only got 2 or 3), M31, M32, M100, M5, M87, M101, NGC869/NGC884, M76,NGC457,M4."

From **Nathan**, Day 2: "Ahem - I got *7* moons around Saturn...

For me, highlights from night #2:
Comet C/2020 R7 Atlas: in (nearly) twilight about 2.5deg above the mesa, Mark Deprest style
UGCA 34 - Maffei 1: a huge, bright galaxy rendered almost invisible by the dust of the Milky Way. A peculiar, if unremarkable object in Cass
NGC6366 : a humble little GC in Oph overshadowed by the flashy, ostentatious M14 nearby
G73: a hit! GC *in M110* ! A rewarding challenge object that turns out to be easy to find, thanks to proximity to M110 and a helpful asterism. Viewed in many scopes around us to great delight.

Night #3:
I hiked the Black Mesa trail (9mi) in great, relatively cool weather. But who cares, what was observed?
NGC6729 at high power: fantastic huge GC next to the showpiece Caldwell 68 in CrA
Many of my list objects are late in the night so I spent a good long time observing HII regions in M101:

I was able to get 4 of the 8 NGC regions mapped in Sky Safari. A fifth required too much averted imaginary persuasion: 5450, 5455, 5461, 5466
Showed a few people my favorite Wolf-Rayet shell WR134 in Cass. The WR star V1769 Cygni is thankfully in a bright asterism. The shell requires an OIII or UHC filter, and appears as a ghostly twin to the Crescent...

View from Black Mesa,looking back toward camp, by Nathan Murphy

....which I then observed at high power to investigate details in the nebula, also a Wolf-Rayet shell!

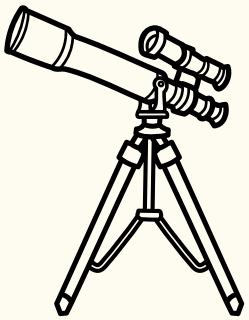
NGC288 and 253: excellent pairing in 1 field in my 3" refractor. Explored both at high power in Papa Smurf
NGC 55 at 300x to try to visually observe the four brightest knots I see in photos - got 3!
NGC300 unremarkable as skies there were not transparent

2 unsuccessful attempts at 22P/Kopf in Cetus. Should have been no problem but could not see anything.

Clouds rolled in at 3 or so..." ■

MORE PHOTOS FROM THE OTSP, p. 9

Photos from Adrian Bradley: "I took this picture [below] of the field with a Sony A7R4, Canon 50mm f/1.4 lens at f/2.0, 30 Seconds, tracked."



UPCOMING TOPICS FOR THE OBJECTIVE LENS

BY JACK SPRAGUE

It is time to remind everyone that all images are welcome and while we have a monthly theme, we love any submission.

Images submitted will be included in 'The Objective Lens" and in the annual Backfocus compilation without any rights transfer beyond your permission to allow The University Lowbrow Astronomers use of your image for inclusion in these two documents.

November -- Long-duration astronomical photos including the "misfit" variety. The theme incudes complete transversals as well as partial "artsy" images, inadvertent objects against the curtain of night (Russian space junk, Elon's space junk aka Starlink, domestic aircraft, UAP, the ISS), and those moon phase pass composites I love. Star trails welcome! I have some delightfully abstract images from an inadvertent imager/mount interface. Perfect!

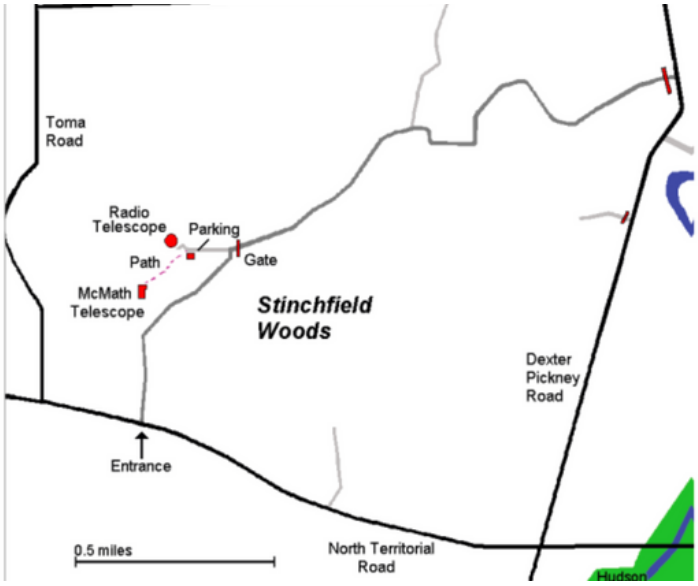
December – December and the holiday edition is all about the glow and diffuse light from nebulosity: planetary, emission, reflection, vague hydrogen-intensive areas, and man-made (yes, the Moon above your holiday-decorated roof in a nightscape would qualify as nebulosity). December is the month to show the glow.

January – Stars! After all, aster-onomy! Doubles, triples, quads, double-doubles, multiples! We'd love to see short frame captures of stars in groups. This is also a real chance for eyepiece AP work as stars lend themselves well to short-exposure improvised pictures. Eyecups work best for me when improvising with a cell phone snap though they are hardly required. Just be careful of the eyepiece! With the "continuous focus" features of most cameras, amazingly clear central image shots are quite possible, especially with 82˚ or better wide-field eyepieces. Please share! Multiple submissions are certainly allowed. Adding a catalog number of at least one of the stars, magnitude, and separation all will be extremely helpful. ■

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). 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

Lowbrow members can obtain a discount on these magazine subscriptions:

Sky & Telescope - $43.95/year

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.

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	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/

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STAMP