REFLECTIONS / REFRACTIONS

University Lowbrow Astronomers

LATE FALL 2016

VOLUME 40, ISSUE 10

Shooting the Moon

By Steve Winchester

Steve Winchester, new to photographing the night sky sent this excellent shot of the October Moon near first quarter. "I made a try at the moon two nights ago in a real soupy atmosphere. I upped the iso to 1600 to get a fast shutter speed of 320. Shot with a Cannon 6D in prime focus through my LX90."

Equipment Review

Denkmeier L-O-A 21 eyepiece

By John Causland

Hey Lowbrows,

Think you might need a kick in the back of the eyeballs to have a reason to hose down your mirror and grab some extra-stellar photons with an apparent new set of eyes?

What would make a new piece of Telescope equipment become the “next killer app” for observing?
How about if Almost Any Open Cluster becomes Eye Candy? No matter how faint!
What if this experience completely revived your interest in observing when you didn’t even realize it was flagging?

How could anyone possibly devise eyepieces that allowed you to observe things in 3-D??!!

I had no idea such a thing existed until noting a paragraph in Astronomy magazine and did a quick search for “L-O-A 21” eyepieces. Russ Lederman at Denkmeier Binoviewers has done it again.

I found a review on Cloudy Nights from a whole year ago, so I’ll let the expert reviewers have their say, in part, first... “The Lederman Optical Array LOA-21 eyepieces are a new ground breaking achievement in eyepiece technology that fundamentally changes amateur visual astronomy. The unique aspect of the new technology incorporated into these eyepieces is their ability to convey multiple distinctly visible layers of depth to the view! They transform the typical flat field rendering of a star field or deep space object viewed through a conventional eyepiece into one where the observer can see actual levels of depth, just as they can see with every day normal vision. Celestial views now burst into three dimensions. And depending on how you position the target or adjust the eyepiece’s rotation in the binoviewer, the target can be manipulated to the foreground, background, or any one of several levels in between. All the familiar celestial targets now take on a totally new character, one where they are alive and in three dimensions within their environment. The LOA-21s therefore show a simulated three-dimensional view.” http://www.cloudynights.com/page/articles/cat/user-reviews/the-lederman-optical-array-loa-21-3d-eyepiece-r2997

After reading this review from probably the most trustworthy web site on astro equipment, I realized I HAD to jump, as the Great Lakes Stargaze was only a week away. Needless to say, the arrival of these eyepieces brought with them 3 days of solid rain in Gladwin, and I went biking on Mackinac Island instead. But, I wish I would have read that review a year ago now.

The following Monday, as the clouds finally departed, I was able to devote only a couple of hours into what became immediate immersion in a new experience of observing. OMG! What have we been missing, was my immediate realization. A couple of days later in the week, Mike Radwick and Dave Austerberry joined me for a gathering of hard core observers “first light” on something unexpectedly revolutionary. The hours simply slipped away as we took inordinate amounts of time getting caught up at looking with amazement at what before had been simply mundane objects.

When Mike and I first bought our "Denks" (Denkmeier bino-viewers) ten years ago, we'd read that once hooked on bino-viewing, we'd rarely want to go back to "Cyclops" viewing. So, we both duitfully bought our pairs of Televue Panoptic 24's and 19's for $600 per pair and then... found we actually didn't get quite enough out of binoviewing to warrant getting them out more than occasionally. In fact, without having to adjust focus for both eyes, and more, getting wider field views with single EP's, we found ourselves mostly, as ever, "cyclops" viewing. But now, after several sessions with 3-D, I'm a newly baptized bino-view convert. At least, half the time at least - for half the objects we view.

When I first emailed Russ Lederman about availability of the LOA21's, I couldn't wait and was driven to simply try calling him. And, there he was answering his own phone. Russ is tremendously forthcoming and provides exhaustive information. Only Rick Singmaster at Starmaster might him beat for chattiness and good info. Russ was very straightforward in suggesting that many objects simply don't benefit from the LOA-21 3-D views. Planets, certainly don't. And, as we found out, objects that sit alone in space w/o surrounding background stars don't either. You'd think Andromeda, M13 etc would benefit, but not so much really. A first Autumn glimpse of M41 low on the horizon seemed so too. M27, the Dumbbell, likewise. No value in "3-D". It might be that under very dark skies, some objects might begin to "pop" better with 3-D but our rather light polluted skies don't yield much with objects like Globular Clusters. (Just as an aside, the LOA21's are VERY "contrasty".)

So, what does work?? Yow! Everything else!

Some of the best examples of the effect are M56 and M71, two small, mag 8+ Globulars in the Summer Triangle. Ordinarily, we take, at best, a quick look and move on. "Yep, they're still there - ho hum" Maybe crank up the power a lot to make them pop better to give a little more satisfaction. But, here's the thing - this is the Milky Way region. Both globulars are surrounded by field stars. And boy do the FLOAT in space, like spheres, in 3-D view!! In fact, the "3-D" altered eyepiece, one of the two, has a raised "nuggie" marking on it, allowing it be rotated 360, from "Near" to "Far" and in between. We found that most of the time, the Near view that brings objects into the foreground provides the most satisfaction. For realism sake, shifting the Globs into the background works well too, as they are, well, very far away in reality. So, it's easy to spend time playing with these shifts in perspective, learning to IMAGINE how these objects might look up close and personal, as it really does bring them "closer"!

As I said earlier, Open Clusters in 3-D bino-viewing are almost universally a kick - faint or bright. Looking at Cassiopeia gives some very curiously unique views. Caroline's Rose 7789 is big and full of faint stars even in a normal flat field. The sense of an enormous sphere of stars is inescapable in 3D. M103, while brighter than 7789, also really pops in similar fashion. Hold your hats on for the Double Cluster! Like looking across 2 big living rooms! And finally, NGC 457, the ET or Owl cluster. Never thought you'd see a chest cavity on ET, did you!??! Here's the thing: as the view is shifted around, stars moving in and out of the center of the field either recede or move up. M36, 37, and 38, always favorite open clusters, are fabulous in 3D, but no "better", no more striking, than some much fainter OC's, like NGC 7082 and NGC 7039. Our eyes were simply DRAWN into viewing carefully as we've never done before.

OK - true enough. You're right. It's "fanciful" or imaginary viewing, this 3D stuff, or is it ?!?! But we do also know that those "flat fields" in a regular EP aren't real either. Many of those stars are at differential distances! The LOA 21's remind us of the fact of that. And in these days of emerging virtual reality, hey, we've got that here and now finally!

So, OK - the L-O-A 21's are $599, not cheap, but then Pan 19 and 24's are the same price and Russ has been selling his own designs now for years, topped off now by these "Killer App" eyepieces. And they will work great in other bino-viewers, so Russ assures me.

If you're all excited now and do decide to go for the LOA21's, just give the Club a head's up, as they will ruin the weather for the next open house at Peach Mtn...

The Cure for Observation Constipation

By Doug Scobel

It's embarrassing, but it's true. I've been afflicted by it since March this year. Yes, I've been suffering from… … the heartbreak of Observation Constipation. In other words, I've not been able to get out! That is, until now.

Backstory: On March 1, my trusty, twelve-year-old Pontiac Vibe got totaled while driving to work on a slippery Telegraph Road. A twenty-something behind me decided that mucking around with her cell phone was more important than paying attention to her driving and WHAM! Rammed her Fusion's right front into my Vibe's left rear, spun me around, and parked me in the median. I was fine but the car wasn't. It didn't look like it but the result was five thousand dollars' worth of damage to a two thousand dollar car with over 250,000 miles on it. It had to go. GAAA!!!

Here's the damage. Sure doesn't look five grand's worth, but that's what the body shop said. *Photos by the author.*

I took the settlement from AAA and put it towards a new "old man's car", a practical four-door sedan. It gets almost forty miles to the gallon, which is perfectly sensible for my 55 mile each way commute, but not so good for taking my 16-inch Dob to and from observing sites.

But we also have a Honda CR-V, which should be up to the task. Not so fast! While the Vibe's back seats when folded down produced a perfectly flat cargo area, the CR-V has no such feature. The seats fold down, but not all the way and they are raised a good six inches or more above the rest of the carrying space. Plus, there's about a three and a half inch drop from the rear bumper down to the floor. I might be able to roll the scope up through the hatch using the wheelbarrow handles and a pair of ramps, like I did with the Vibe, but that drop down to the floor worried me. Not to mention trying to pull the hundred pound scope out over that same ledge when unloading.

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LOWBROW MONTHLY MEETING

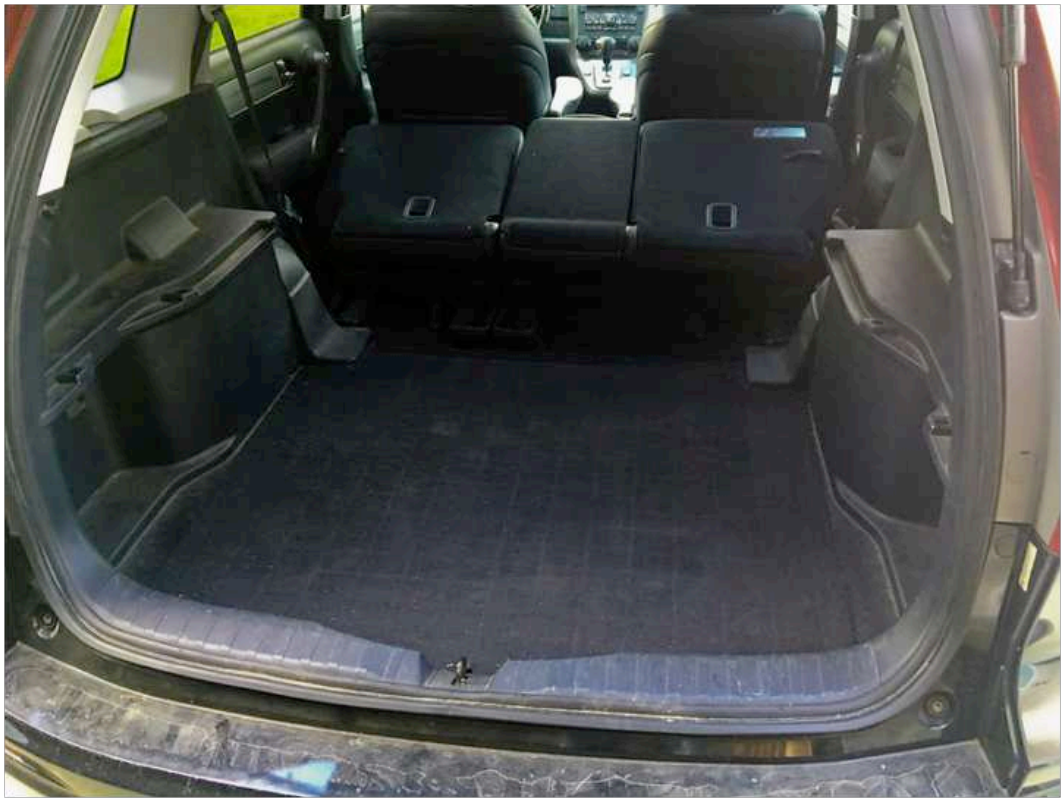
Holiday Special !!! Friday, December 16 7:30 PM--"The Artsy-Meaningless Slide Show"
Long-time club member Fred Schebor provides a presentation every 3 or 4 years, which is a display of images of and about our club, all set to music and special effects.

Friday, January 20, 2017, 7:30 PM--"ETT Scope: Building a 10 Inch Dob" Member Paul Walkowski talks to the club about his latest telescope construction project.

Meetings are in Room G115 Angell Hall, University of Michigan, 435 South State Street, Ann Arbor, Michigan

My solution was to build a removable platform onto which I can load and unload the scope. In effect it raises the floor to the level of the ledge at the bumper. It also provides a way of securing the ramps to it without them accidentally slipping off (always a worry with the Vibe), while preventing damage to the vehicle's bumper.

Rather than bore you with a lot of words, here's a little pictorial showing how I did it.



Here's the problem with the CR-V to work around. Create a flat cargo area to make it possible to easily load and unload the scope and accessories.

Make a frame out of some scrap plywood, and add a piece of ¼" plywood to the top. A flip-down panel, attached using a length of piano hinge, provides an even surface over which to roll the scope in and out, plus something to attach the ramps to. While loading/unloading it has to extend rearward past the front edge of the bumper, but flip up out of the way once everything is loaded so that the hatch can close.

Underneath, add some stand-offs (to follow the uneven floor area under the slid forward seats) and additional ribbing to make it strong enough to carry the weight of the scope and gear.

Make up a new pair of longer ramps (to accommodate the higher bumper), slap on some paint to protect it all from the inevitable damp nighttime conditions, and add some laminate to make it easier to move things around.

To load the scope:

Flip down the rear seats and move them forward, place the platform in the cargo area, flip down the ramp attachment panel, and attach the ramps. To attach the ramps to the platform I fashioned a couple brackets out of steel strapping. They hook into matching slots cut into the flip-down panel. And yes, that is indeed Ebony Star! Would you expect anything less?

Load the scope and gear, remove the ramps, flip up the ramp attachment panel so that the hatch will close, and I'm ready to go!

It took a little engineering, some scrap plywood, and some elbow grease, but now I can get out. No more Observation Constipation! I've been cured!

Lowbrow Meeting Minutes

October 21, 2016

President, Charlie Nielsen, opened the meeting at 7:34PM

Web Master, Krishna Rao, introduced Professor Ethan Siegel who spoke to us via Google Hangout about the latest New Horizon's info about Pluto and the influence of a suspected planet Nine on the orbits of the planets in our solar system. Q and A followed.
Charlie Nielsen reminded us of the LSNC event on Saturday and requested Lowbrow telescope support.

VP, Ken Ruble, volunteered to be OHC for October 29 Open House.

Newsletter Editor, Jim Forrester, said he has lots of photographic input, but is looking for more written info for the newsletter. He also told us about the petroglyphs he experienced at the latest Star Party he attended. He also asked for more newsletter articles.

VP, Don Fohey, reported that he has made and installed a new hand controller box for the McMath telescope. He has made an instruction booklet with sheets for the controller and other devices which he presented to Observatory Directory, Jack Brisbin.

He has improved the design of his encoder to Sky Safari interface box with a printed circuit board so that there is no longer any hand wiring. He has ordered all the parts to construct one for the club 17.5" telescope as proposed at the July meeting. He should have it finished in the next week.

VP, Larry Halbert, reported that he is working on a brochure, which will be presented at the next meeting.

Treasurer, Doug Scobel, reported that the membership is at 128 and the treasury is at $7103. He took funds from the members for dues and RASC calendars and Observer handbooks. He mentioned that our club is now listed with the Astronomical League.

Observatory Director, Jack Brisbin, mentioned that he will not be at the next Open House but that Charlie and Jim are the remaining key holders and available to open the gate and Observatory. Jack has been working on aligning the secondary on the 24" McMath and is hoping that this next week he will continue, weather permitting. He will let us know when we can help.

VP, Dave Jorgensen, had nothing to report.

Webmaster, Krishna Rao, told us of a phishing scam for those with a umich email address. He also mentioned that there have been nearly 500 "likes" on our Facebook site.

Jim Forrester asked if anyone had been in contact with our November speaker, Steve Germann, regarding his planned remote presentation. Jim will send Steve's email address to Dave Jorgensen and Charlie Nielsen so they can work out the communication details.

Jim Forrester made a pitch to us all to get out and vote.

GLACC representative, Paul Walkowski, reported that 2000 participants attended the AATB event. He handed out raffle prizes for several members who participated.

Member, Doug Warshow, made a pitch for the "Year in Space Calendar" at $13.95 each. If he gets a few more orders, the price drops to $12.95. Orders will be accepted through October 31. His email address is galaxies@umich.edu.

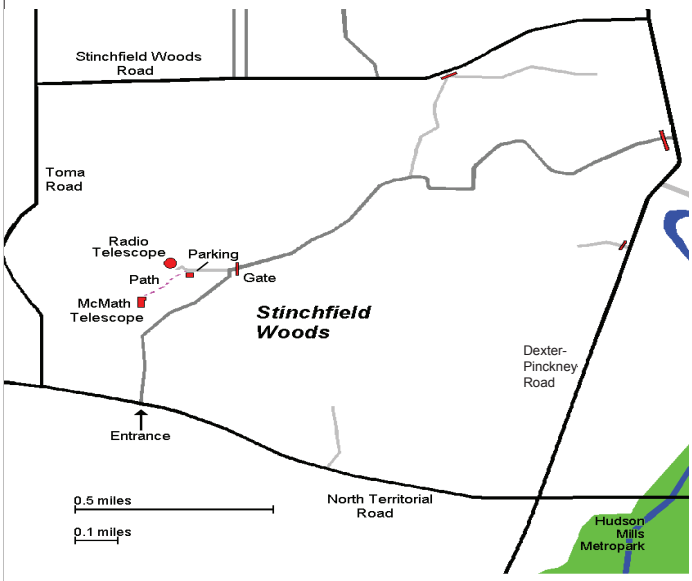
Meeting was closed about 9:30 PM.

Respectfully submitted by David Jorgensen

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 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 as well as the University's McMath 24" telescope, maintained and operated by the Lowbrows. Located northwest of Dexter, MI; the entrance is off North Territorial Road, 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 Mountain observatory, but are usually cancelled if the sky is cloudy at sunset or the temperature is below 10 degrees F. For the most up to date info on the Open House / Star Party status call: (734)975-3248. Many members bring their telescope to share with the public and visitors are welcome to do the same. Peach Mountain is home to millions of hungry mosquitoes, so apply bug repellent, and it can get rather cold at night, please dress accordingly.

Membership

Membership dues in the University Lowbrow Astronomers are $30 per year for individuals or families, $20 per year for students and seniors (age 55+) and $5 if you live outside of the Lower Peninsula of Michigan.

This entitles you to the access to our monthly Newsletters on-line at our website and use of the 24" McMath telescope (after some training).

A hard copy of the Newsletter can be obtained with an additional $18 annual fee to cover printing and postage. Dues can be paid at the monthly meetings 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

Membership in the Lowbrows can also get you a discount on these magazine subscriptions:

Sky & Telescope - $32.95/year or $62.95/2 years
Astronomy - $34.00/year, $60.00/2 years or $85.95/3 years

For more information contact the club Treasurer at:

lowbrowdoug@gmail.com

Newsletter Contributions

Members and (non-members) are encouraged to write about any astronomy related topic of interest.

Call or Email the Newsletter Editor: **Jim Forrester (734) 663-1638 or** jim_forrester@hotmail.com to discuss length and 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 Presidents:	Larry Halbert	
	Dave Jorgenson	
	Don Fohey	
	Ken Ruble	
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	Jack Brisbin	
	Charlie Nielsen	(734) 747-6585
Webmaster	Krishna Rao	

Lowbrow's Home Page

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

Email at:

Lowbrow-members@umich.edu

A NOTE ON KEYS: The club currently has one gate key. The officers are negotiating with the University for additional copies. The Observatory Director usually has this key. All three Key-holders have keys to the Observatory.

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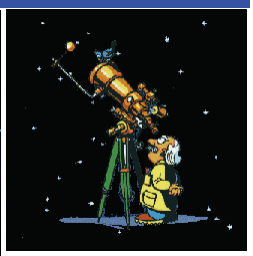
Reflections & Refractions



Website
www.umich.edu/~lowbrows/

This is one of the 272 meteors Brian Ottum and I counted during last August's Perseid Meteor Shower. Brian set up two cameras pointing at different parts of the sky, automatically making exposures every few minutes. This bright spear hurtles along side one of the great dark rifts in the Milky Way.

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