



REFLECTIONS / REFRACTIONS

University Lowbrow
Astronomers

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MAY 2016

VOLUME 40, ISSUE 5

“Looks Just Like This in My Scope.” (We Wish!)

The Great Andromeda Galaxy

By Brian Ottum



This is one of the more wonderful photographs of Messier 31 your Editor has seen, so it rightfully leads off this month's issue. How did Brian do it? He let's us all know: I finally got a presentable image of Andromeda Galaxy, after trying for 40 years. (Yes, I have a crappy picture taken in 1976 with my Pentax and Tri-X B&W film.) Technical Details: Canon 5DmkIII (modified), 10" f/5 reflector, Paramount MX, William Optics 4" APO and Orion autoguider. Located in NM desert, remotely controlled from Michigan. Three separate panel mosaic, each panel representing 9-10 hours of five minute individual images. A ridiculous and frustrating amount of post processing using ImagesPlus and Photoshop. Taken over 14 nights in November, 2014. Untouched until this week due to my fear of mosaics.

Sign Up By July 1!

Join the Astronomical League Now!

By Treasurer Doug Scobel

If you've been paying attention (i.e., reading the newsletter, attending meetings, etc.), then you know that we've been considering joining the Astronomical League as a member society. For those of you who have not been paying attention refer to the article I wrote for the April newsletter. Regardless, we voted on and approved the matter at the April 15 monthly meeting. So the University Lowbrow Astronomers will become a member society of the Astronomical League this summer! At least as long as five or more of us members become members of the Astronomical League as well.

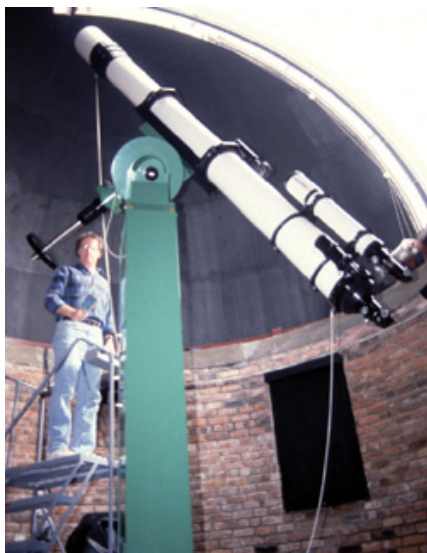
What this means for you is that by virtue of the Lowbrows becoming a member society of the Astronomical League, you as a member of the Lowbrows have the opportunity to join the Astronomical League for the measly cost of only \$7.50 a year. Receiving their quarterly news-magazine *The Reflector* is worth more than that! Considering that joining the Astronomical League as a member-at-large will cost you at least \$40.00 a year, this is an absurd bargain!

If you wish to join then all you need to do is send me \$7.50 between now and July 1, 2016. Send me the money by cash or check to our PO Box (see page 9), in person at the May or June meetings, at any public outreach event we happen to both attend, or even via PayPal using this email address: lowbrowdoug@gmail.com. If you pay by check then please make it payable to "University Lowbrow Astronomers". If you pay via PayPal then please send it "to friends or family". Your first issue of *The Reflector* will be the September issue.

I'll be sending in our payment to the Astronomical League on July 2, so don't delay, and don't be late!

Monday, May 9

Mercury Transits the Sun



Lowbrow Norbert Vance (above, in his guise as a much younger person) has invited the membership (and the general public), in his day job capacity as Director of EMU's Sherzer Observatory, to view the transit through the fabulous Astro-Physics 10 inch refractor.

I will have Sherzer Observatory on the EMU campus open Monday, May 9 from 7 AM -2 PM, weather permitting for views of the transit. The AP 10-inch apo refractor will be fitted with our Daystar .6A H-alpha filter while the parallel AP 4-inch apo guide scope is fitted with a standard white light glass filter. I'll also have several scopes on our observing deck: a Daystar .7A filter on a C8 tracking at solar rate, a 60mm Lunt .7A solar scope, a 50mm Coronado .7A H-alpha, and a couple more glass filter white light scopes. I am considering CCD video of the event via one of the scopes and will play with some of the possible set ups in the days ahead leading to the transit, all this to ensure that it WILL be cloudy!

You may wish to stop by and take a peek, feel free to do so because it will be, uh, free! Oh, yes, since summer classes will be in session, parking is available in the pay lot on the very SW corner of campus, Washtenaw at Oakwood. That part is not free but still a modest expense so you may want to park there. While transits by Mercury may only occur in November and May, word has it that this will be the last May transit until May, 2049, yikes! That rarity means it may be cloudy! Or you may want to bring sunglasses. Maybe we'll see you there... mayhaps.--Norbert Vance

I've viewed the sun through the 10 inch AP on a couple of occasions. It is a very special treat, not to be missed!--ed.

[Mercury Transit timings for Detroit, 5/9/16:](#)

First Contact: 07:13:31 Sun altitude 9°

2nd Contact: 07:16:44 Sun altitude 10°

Greatest Transit: 10:58:00 Sun altitude 50°

3rd Contact: 14:38:20 Sun altitude 61°

4th Contact: 14:41:31 Sun altitude 61°

The Raye Klopfenstien 4.2" Mystery Telescope

By Clayton Kessler

Late last summer, on a Saturday evening, I saw a Craig's List ad for a large ATM made EQ mount out of Ohio. I was intrigued by the design and contacted the seller. He mentioned that there were also two telescopes that could go with the mount. I asked for pictures. When I saw the pictures I told the seller that I wanted to come and look at them and asked for an address. I waited all day Sunday for a reply and finally got an e-mail saying everything was sold. I was disappointed, as they were pretty cool looking telescopes, but that is life within Craig's List.

A week or so later I was reading the posts up on the Cloudy Nights "Classic Telescopes" forum when a member posted pictures of his "great score" in Bowling Green Ohio. Son of a..... I recognized the photos of the mount and scopes from that Craig's List ad. I could not resist posting a good natured "you dirty rat" post and Tom Kiehl (Cloudy Nights) and I had a few laughs over it. That evolved into some e-mail discussions about the scopes and their history. It was quite the story as it was told to me.

It seems the mount and both scopes were found abandoned in a garage somewhere in Detroit a good number of years ago – on the order of 25 years or more. The gentleman selling the scopes was Raye Klopfenstien and he had run a classroom in Utica Michigan teaching astronomy and aerospace subjects to younger children. The equipment was donated to him for his classes and he used them basically as props in the classroom for many years. When he retired the classes were stopped and he had the equipment stored in his barn for 10 years or so. At this point no one knows who designed and built the scopes and mount but they were very skilled and did a great job.

At one point Tom asked if I was interested in purchasing the smaller of the two telescopes. He said he had several refractors in the 4" f/15 range but he wanted to keep the 5" f/16 because he had nothing in that size. I agreed to purchase the smaller scope and picked it up on the way to the Black Forest Star Party in September. The scope was made by someone with a great deal of skill. The lens cell and the tail piece were cast aluminum and someone made patterns to cast these, then machined them very nicely. All other shaped aluminum parts were cast from patterns. I suspect the lens – a Baker style doublet – was ATM made. The tube is aluminum. Focuser parts were made from brass. The focuser is interesting – it is a single knob on the side of the tube that includes an eccentric adjustment to set the pinion engagement in the rack – very nicely done. The only thing not done was any finish work. All the parts were unpainted and the large cast pieces showed a lot of porosity. Once I got the scope home I decided to finish the outside, sort of as an homage to the unknown builder.

The scope as I received it:



Photography by the author.

After I disassembled and cleaned the scope I had the tube powder coated and painted the cast aluminum pieces with a black wrinkle finish to hide the porosity. I made a dew shield for the front of the objective and for the finder. I also made caps to cover the finder and objective while not in use.



This is what it looked like set up at the shop. I did not have the lens covers made at that time. Instead of filling in the extra "accessory" holes in the OTA I tapped them for $\frac{1}{4}$ -20 screws and used some blackened stainless button head screws to plug them until I find a use for them.

For lens caps I like to use PVC fittings where I can find something close. This worked well on the finder scope.

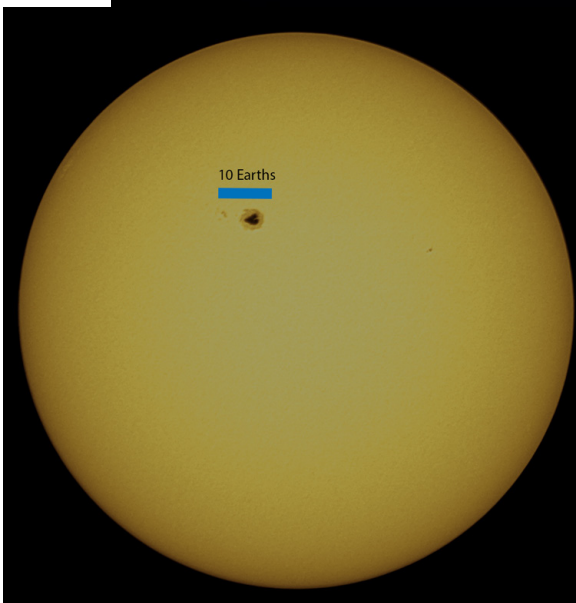
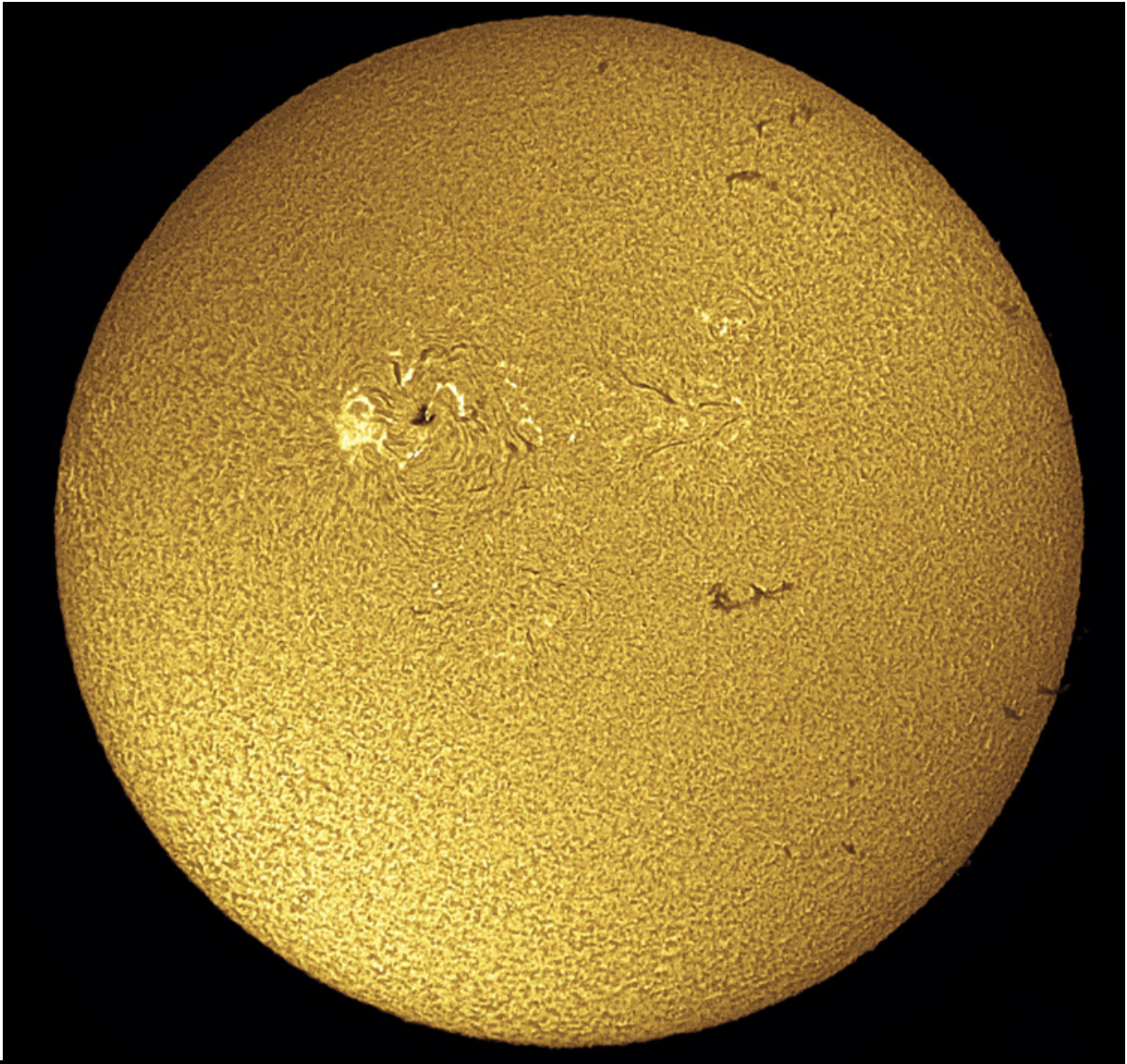
A little time on the lathe and a nice cap for the end of the scope. The main lens cap was turned from a piece of aluminum stock although I was able to make a solar filter from a PVC fitting!

When all was said and done this is what currently resides on one of the spare piers in the back yard. I will leave it there until I finish the bigger one (hehehe) and then I expect the RKMT4.2" will be used mostly for outreach events like "Astronomy at the Beach".



How does it work? Well I think it works pretty well. There may be some adjustment needed in the spacing of the Baker Doublet but the scope performs quite well at low to medium powers – up to about 240X on stars and on Jupiter. I am somewhat spoiled by my Zeiss AS63 refractor for sharp views but the RKT 4.2" works quite well. Until a means of testing the objective and making adjustments becomes available this scope will do yeoman duty in the backyard and at remote locations.

If anyone recognizes the maker of this scope please contact me. I would love to know more of its history. What kind of mount am I using for this scope? Well – that may be a story for another article.



I took these images this afternoon (4/12/16). Jodi took her high school and college classes out to see and they were impressed at how much you can see just through filters.

Images were taken with a Grasshopper Express camera mounted on a Televue 101 IS scope. The H-alpha was shot with double stacked Coronado filters. The white light image taken with a Thousand Oaks filter.

Roy and Jodi McCullough

Jodi and Roy, members from eastern Ohio, are eclipse chasers and will be recounting their latest adventure in Indonesia at the June membership meeting.

My 16" Dobsonian Telescope

By Russ M. Vente

Russ has submitted a well illustrated article highlighting certain aspects of the construction of his new telescope. Far too lengthy for a single issue of "Reflections." [My 16" Dobsonian Telescope](#) will appear in several parts in upcoming issues of the newsletter. It should be noted Russ has passed his 14" mirror to another member of the club and I'm sure an article on that new scope will appear soon. The rest of you can follow in Russ' footsteps! Currently an f/5, 16" Hubble mirror is listed for sale on Astromart.

Introduction

I started a project in the fall of 2014 to build a truss type Dobsonian for the 14" mirror I had been making. I think I started the mirror in 2012 probably in the winter. I also had been watching the mirror making activities of Hubble Optics located in Hong Kong. Hubble Optics makes a "sandwich" type mirror either using plate glass or Pyrex. The sandwich design is supposed to improve the thermal characteristics of the mirror. About half way through making the Dobsonian mount I noticed Hubble Optics had put a 16" F4.5 plate glass mirror posted on eBay, which they do from time to time, for half the price that is listed on their web site. I couldn't resist, so I purchased the Hubble Optics mirror and stopped work on my 14" mirror. The completed scope is shown below, left.



Dobsonian Mount Details

The design for the mount came from website below. I choose this design because it had a couple of nice features and looked easy to build.

<http://www.clearskyobserver.com/index.php/20-telescopemaking/7-16dob>

For the remainder of this article I will show you the finished sub components with a few comments from time to time. The above web site has a nice set of construction plans with all the necessary dimensions so I won't repeat them here.

The Rocker

The rocker as it is called is a pretty standard design. The base board is attached to the rocker using a lazy susan bearing, shown in the last of the three photos detailing the rocker.



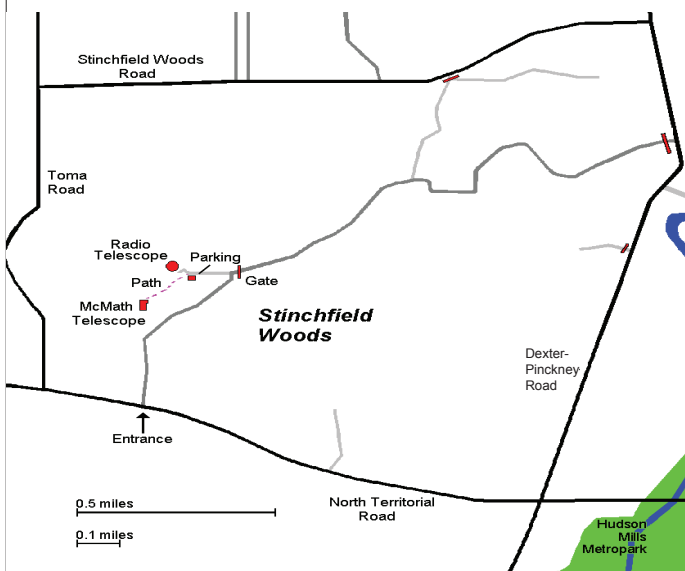


Next month, a rather unusual mirror cell allowing adjustment of the primary from the front and its placement in the mirror box is described.

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)332-9132. 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.

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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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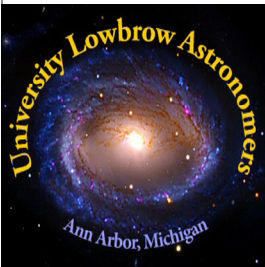
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Reflections & Refractions



Website

www.umich.edu/~lowbrows/



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Brian Ottum sent us this photo of the Diamond Ring Nebula early last February, asking if anyone had seen it visually, a tough order at magnitude 12.89 and 4.3 x 4.6 arc minutes in size. 7th magnitude HD 83535 sits line of sight with the nebula's edge, giving it its diamond ring appearance. If you do want to go on the hunt, Abell 33 sits about 1°40' at 186° south southeast of Iota Hydrae.