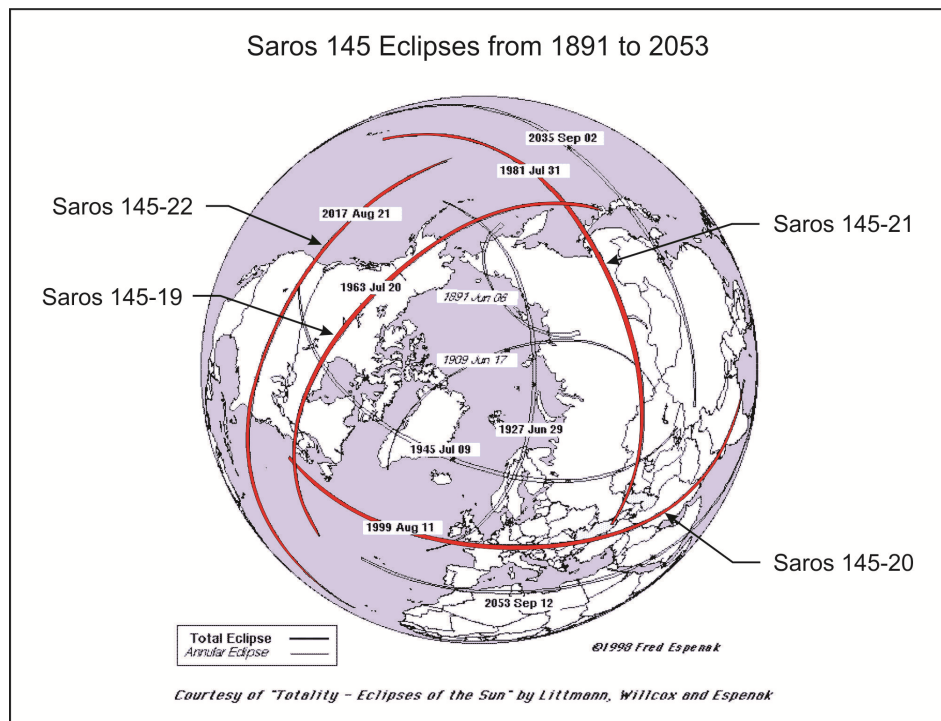




Memories of Solar Eclipse 145-19 by Charles Steele

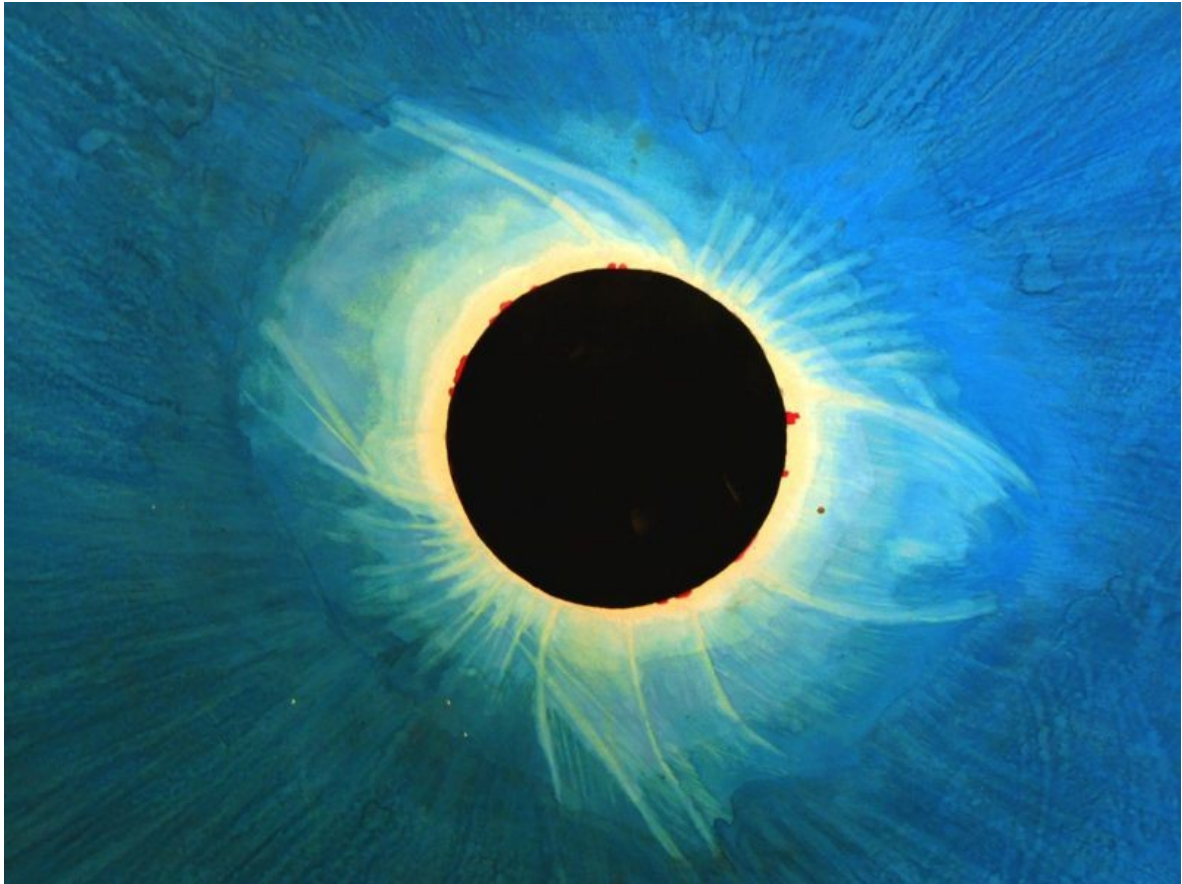
Eclipses fall into patterns called Saros which happen every 18 years, 11 days and 8 hours. Various Saros cycles are given numbers. Saros 145 has had a number of eclipses over the last century. Due to the extra 8 hours from one Saros to the next, the path of the eclipse shifts 120 degrees on the earth's sur-



Every third Saros eclipse comes back to the same area of the earth and runs parallel to a previous eclipse path. In 1963 was Saros 145-19 which was the first successful solar eclipse I got to view.

The Jul. 20, 1963 I viewed in Canada at Moose River Crossing, with my brother and father. We drove from Cincinnati, OH to Cochrane, Ontario, Canada where we caught a special excursion eclipse train, which stopped at the Moose River bridge north of Cochrane to drop off the eclipse viewers. The train then continued on to Moosonee on James Bay then returned after the eclipse to pick us up. We had small puffy clouds which nicely cleared up at Totality and we had a great view of the Eclipse.

At eclipse time you get to see the Sun's atmosphere which usually has streamers which stream away as the solar wind. Often times there are red prominences sticking up along the edge of darkened Sun. There is a wide range of brightness of these various features which are hard if not impossible to capture in one photograph. So using a number of pictures that I took, I painted this picture of the eclipse as I remember it looking. Your eye seems to be able to capture the full beauty of eclipsed Sun.



The picture to the left is the Moose River bridge observing sight. A couple from New York and their young son are sitting on the very comfortable rails observing the sun eclipse progress. Behind them is my 50mm refractor set up with projection screen to observe the partial phase. My dad is to the right.

This Aug. is the third solar eclipse of Saros 145 series following the 1963 eclipse. It will be 54 years and 34 days since the Moose River Eclipse Trip. So this will bring back some fond memories of that trip. This eclipse on August 21 will go right across the United States from OR to SC. Due to the sun's dormant state at this time we may not see very many prominences around the edge of the sun. Sometimes they can be large and spectacular. So enjoy the view.

IMPORTANT ANNOUNCEMENT!

The Friday June 16th meeting will begin at **6:30PM** in order to accommodate two speakers. The meeting will be as usual in room **G115 Angell Hall**. The first speaker is Kurt Hillig, is long time club member and an accomplished photographer. His talk is titled "Stitching an All-Sky Panorama with Hugin". The two photos below were creating using Hugin - Panorama photo stitcher (<http://hugin.sourceforge.net/>)



Photo by
Kurt Hillig



Photo by
Brian D. Ottum, Ph.D.

Learning Astrophotography
By Adrian Bradley



This shows how tough it can be to learn astrophotography and also shows what a small scope can do. I took this image of Jupiter from a 4.5" f/8 Tasco 11TR. It was roughly a 30min capture and the clouds were moving in. I processed the image with Registax. I plan to take another crack at processing the original image to see if I can get more out of it.

Photos and text below from email sent to members by Adrian



I shot M104 through a tree... Looks kinda cool, perhaps a spiritual light?

M66... Barred spiral in Leo,
part of the Triplet.



Do You Want to Join the Astronomical League?

Doug Scobel, Treasurer

In July of 2016 the Lowbrows became a member society of the Astronomical League. What that means for individual Lowbrows is that you also can join the Astronomical League for only \$7.50 a year!

The Lowbrows' annual renewal with the Astronomical League is coming up on July 1. I've already sent a renewal message to each of the 27 Lowbrows who joined the Astronomical League as individuals during that initial event. This message is for those of you who did not join then, or have joined the Lowbrows since last July. You too have the opportunity to become a member of the Astronomical League at that same ridiculously low fee.

The Astronomical League is a non-profit organization whose mission is to promote the science of astronomy, focusing on pursuit of astronomy by amateurs. In their words, the Astronomical League's mission is "To promote the Science of Astronomy; To foster observational and computational work, and craftsmanship opportunities in the various fields of Astronomy; To provide a medium for correlating amateur activities and professional research; To encourage and coordinate activities of amateur Astronomical Societies".

Individual Lowbrow members are free to join the Astronomical League or not to. If you are still reading then you probably have two questions: "How much will it cost me?" and "What's in it for me?".

As I've already stated your cost as an individual is only \$7.50 annually. So what does that \$7.50 buy you? Besides a paper and/or electronic subscription to the League's quarterly journal The Reflector, a major benefit is eligibility to participate in any or all of the Astronomical League's observing programs. Again, in the Astronomical League's words these programs "are designed to provide a direction for your observations and to provide a goal. The programs have awards and pins to recognize the observers' accomplishments and for demonstrating their observing skills with a variety of instruments and objects." The Astronomical League also provides tools to aid you in your observations. They have observing awards for all observational skill levels. They are a great way to provide you more of a reason to go out observing, while improving your observing skills at the same time. Besides those tangible benefits, Astronomical League members have voting privileges, and may attend conventions and join in other Astronomical League activities.

To participate in any of these programs you must be a member of the Astronomical League – either as part of a member society or as a member-at-large. When you consider that the cost to join as a member-at-large starts at \$40.00, joining for only \$7.50 as part of a member society is a HUGE bargain!

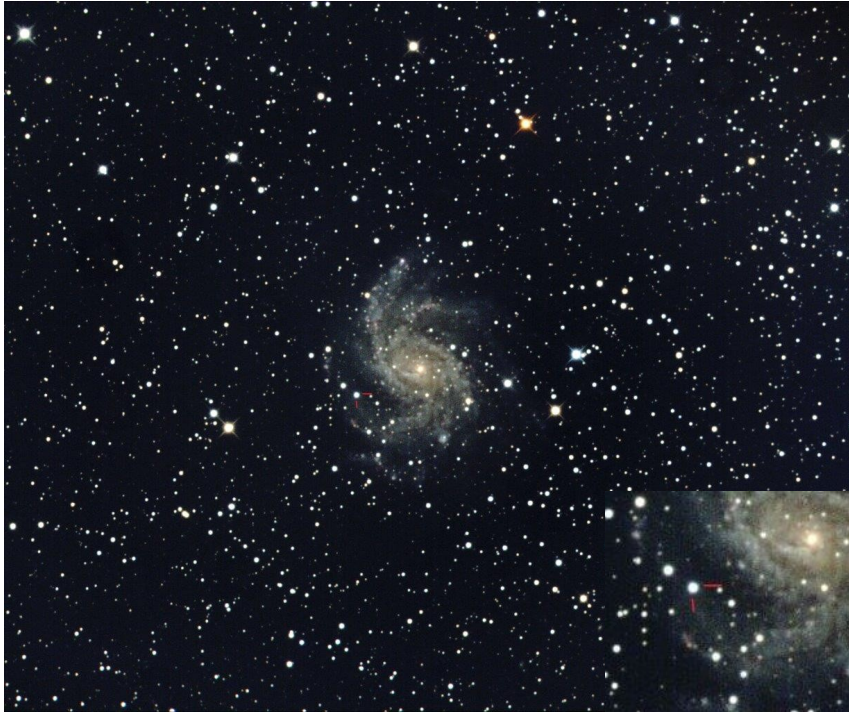
If you think you'd like to join the Astronomical League this time around, then all you have to do is ensure that I receive your \$7.50 by the June 16 meeting. You can bring me cash or check then, or mail your payment to the club address (found near the back of the monthly newsletter and on the home page of the club's web site). You can even pay via PayPal! Just let me know and I'll send you instructions.

It seems to me that joining the Astronomical League as an individual member is a no-brainer. I urge you to consider it. The monetary cost is minimal, and the benefits to you if you join are, well, astronomical!

[For more information on the Astronomical League, go to <https://www.astroleague.org/>]

Email Gleanings

On May 15th Doug Bock wrote in an email to members:
New supernova in this galaxy NGC 6946 discovered yesterday. I decided to make a run on it tonight.
Here's the SN in NGC 6946. I've marked the potential supernova AT2017eaw



NGC 6945 24 stack with darks cropped. Red marks indicate supernova.

Dog and Telescope



Copper, Dave Jorgensen, Jim Forrester, and Jack Brisbin inspecting club 17" telescope.

Servo Cat Proposal for the club 17" telescope

Approved at the May meeting. (See minutes on page 8)

May 19th, Doug Scobel wrote a email to club members:

Hi, all, as Charlie mentioned we will be voting on a substantial club expense at tonight's meeting. We will be proposing that we spend up to \$2200.00 to purchase and install the ServoCAT drive system on the club's 17.5" Dobsonian telescope.

ServoCAT, along with the Sky Commander digital setting circle/database system already installed on the scope, will provide tracking and go-to capability. An additional part of the proposal is to add the SkyFi III wireless module to let us connect to the ServoCAT from SkySafari running on mobile devices, including iOS and Android.

Adding go-to and particularly tracking will greatly enhance the utility of the telescope. Go-to will make acquisition of targets far easier and quicker. Plus, once a target is acquired, ServoCAT's tracking will all but eliminate the need to re-aim the telescope every second or third observer. And controlling the scope from SkySafari running on your phone or tablet will simply be way cool!

The officers and the ATM group have discussed this at length and believe this is the best option for adding this kind of capability to the scope to make it even more useful at outreach events. Please be prepared to discuss this and vote on it this evening. The attached spreadsheet breaks down the prices of the individual items.

<u>Proposal to upgrade the 17.5" scope to add tracking and "GoTo" capability</u>	
ServoCAT	\$1,669.00
Powered ground board hardware	\$119.00
Altitude bearing extension	\$40.00
Deep cycle 12 volt battery and case	\$100.00
SkyFi III	\$200.00
Estimated shipping	\$50.00
Misc. hardware, finishing supplies	\$22.00
Total	\$2,200.00

University Lowbrow Astronomers – Meeting Minutes – May 19, 2017

President, Charlie Nielsen, opened the meeting at 7:36PM.

He introduced Dr. Michael Combi (UofM Climate and Space Science) who spoke to us about the 12 year Rosetta Mission to comet Churyumov-Gerasimenko, from rocket launch to rendezvous with the comet. He described much of the equipment on board and the analysis of the comet's atmosphere using mass spectrometers, his specialty. Following his talk, he fielded questions from the audience.

Charlie presented a Lowbrow T-shirt to Michael as a thanks for his presentation. There was a 10 minute break for the audience to meet with Dr. Combi.

Business Meeting:

VP, Adrian Bradley, reported that he has been in contact with "Rolling Hills" group about involving Lowbrows in a summer activity. He will continue to inform the officers about the status.

VP, Larry Halbert, had nothing to report.

Observatory Director, Jack Brisbin, mentioned that he will be gone for part of June. He needs to work out who will have possession of his Peach Mountain keys in his absence. Jack mentioned that the 6" f/8 mirror will be returned from the coater shortly. He also discussed the need to have a procedure for loaning the club's equipment to members, with perhaps a time limit for the loan. Then Jack gave a description of the telescope equipment that the club owns.

VP, Dave Jorgensen, had nothing to report.

Webmaster, Krishna Rao, was absent, but emailed the following report:

Newsletters are uploaded for April / May for anyone that didn't get them in email or deleted those emails. Minutes are also available for those who are interested.

The new trifold lowbrow flyer is on the members only section

At the last visit, it was pointed out (by Don, I think?) that there were errors on the the club information page about perks of being a member (<http://www.umich.edu/~lowbrows/theclub/>). Can someone point out the errors since I am not seeing them? Perhaps the officers can draft a revision if there are many things out of date or new items should be added? Don Fohey said he would put a draft together regarding member access policy for Peach Mountain keys.

The officers have discussed an official lowbrow response to the new Ann Arbor street lighting initiative (http://www.mlive.com/news/ann-arbor/index.ssf/2017/01/ann_arbor_hires_firm_for_143k.html). Charlie was working on this. Should this now be moved to a club discussion, wait some more on Charlie's contacts, or stay at the officer level for now? Charlie explained that discussions are taking place, but too early for Lowbrow input.

Newsletter Editor, Don Fohey, reported that his first newsletter contained 10 pages, consistent with past policy. June 1st is the cutoff date for submitting articles for the June newsletter. No password is required for future emailed newsletters, but website access to them will require a password.

Treasurer, Doug Scobel, reported a membership of 135, with \$7567 in the treasury. Registration fees for Astronomical League membership are due to Doug by June 15. Doug said to expect an email announcement soon, and an article in the June Reflections, that will provide details. Doug presented a proposal to add ServoCAT "Go-To" capability to the 17.5 inch scope. The club approved this expenditure of \$2200.

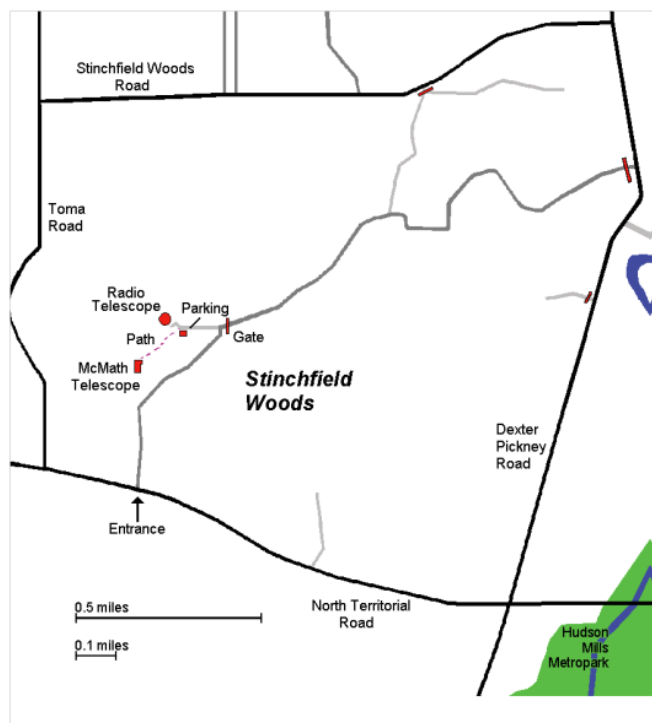
The meeting was adjourned at 10:22PM.

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 Angel Hall, ground floor, Room G115. Angel 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 Angel 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



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

The University Lowbrow Astronomers membership dues 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. Membership entitles you 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, by PayPal, or be 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 \$62.95/2 years
 Astronomy -\$34.00/year, \$60.00/2 years or \$85.95/3 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.

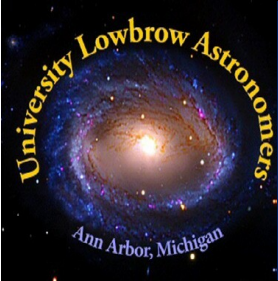
Telephone Numbers

- | | | |
|-----------------------|-----------------|----------------|
| President: | Charlie Nielsen | (734) 747-6585 |
| Vice President: | Adrian Bradley | (734) 354 5346 |
| | Jim Forrester | (734) 663-1638 |
| | Larry Halbert | |
| | 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 | |

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



Affiliated Member

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

STAMP