

# The Observer

The Official Publication of the Lehigh Valley Amateur Astronomical Society

<https://lvaas.org/>

<https://www.facebook.com/lvaas.astro>

August 2023

Volume 63 Issue 08







Volunteering with the Lehigh Valley Amateur Astronomical Society (LVAAS) extends beyond shared stargazing experiences—it offers an array of opportunities for active involvement and personal growth. From astroimaging to public relations and risk management, our diverse committees ensure that every enthusiast finds a niche to contribute to and learn from. These platforms allow volunteers to build skills, deepen astronomical knowledge, and foster a sense of belonging within our tight-knit community.

LVAAS is especially seeking volunteers for our Member Services, Membership, Planetarium, Star Party, and Technology committees. On our Member Services committee, volunteers can manage our Red Shift Store, ensuring the smooth functioning of our services and member satisfaction. Our Membership committee is the gateway to our society, where volunteers can connect with new and existing members, cultivate a welcoming atmosphere, and foster our community's growth.

Our Planetarium and Star Party committees offer opportunities to directly share the awe-inspiring wonder of the cosmos. Volunteers in these committees orchestrate breathtaking celestial experiences, introducing community members to the universe's splendor. On our Technology committee, volunteers can contribute to maintaining and advancing our technological resources, crucial for exploring and showcasing the farthest reaches of space.

In essence, volunteering at LVAAS means contributing to our collective mission of making astronomy accessible to all. It's about being a part of something greater, sharing the magic of the cosmos, and growing alongside like-minded individuals. Whether you're a seasoned astronomer, a technology enthusiast, or simply someone who cherishes community and learning, there's a place for you at

LVAAS. We warmly invite you to join us, contribute your unique skills, and experience the joy of volunteering with LVAAS.

On a final note, for the past couple of years, job-hopping has become a popular way for individuals seeking pay increases more commensurate with their abilities and experience to achieve an edge. Adding volunteering and leadership to your resume can really help it to stand out amongst those of other candidates, giving you greater negotiating power for compensation. Also, astronomy is always an interesting topic to build a good rapport with your interviewer. Speaking from experience! 😊

Updates from the BOG:

- Business cards will be coming in this month.
- I also ordered an updated NASA Night Sky Network banner for us in addition to five JWST posters.
- DaVinci will be hosting a special event on the day of the solar eclipse, which LVAAS will be participating in. We will be raffling off some exciting equipment at the event that will appeal to both imagers and visual observers.
- We sold two scopes at the silent auction at the picnic for a total of \$125. Awesome!

MegaMeet update: Reminder that MegaMeet will be from Friday August 11<sup>th</sup> to Sunday August 13<sup>th</sup>. Friday we will have our Stargazers group meet, and Saturday will be our general meeting.

Finally, if you are interested in running for Director, Assistant Director, or Treasurer, please let Bill Dahlenburg know! You can find his contact info on the LVAAS website on the Contacts page.

Ad Astra!

Mike Huber



# Lehigh Valley Amateur Astronomical Society (LVAAS)

## MEGAMEET

Pulpit Rock Astronomical Park

August 11-13, 2023

**We may re-schedule depending on weather; please check [lvaas.org](http://lvaas.org) for updates**

### EVENT INFORMATION

MegaMeet is LVAAS's annual barebones star party without vendors, speakers, or registration fees. Members in good standing of regional amateur astronomy clubs are invited to attend. MegaMeet attendees can either come for the evening observing sessions or tent camp for the weekend. Access to the site, behind a locked gate, is via 2 miles of some rather steep gravel mountain road. The road is in good shape and is readily accessible for cars and light trucks. Trailers should not attempt to access the site. Camping is encouraged, but space is limited. Due to limited capacity at the site **LVAAS nonmembers will be required to register for this event**. You can register for the event by emailing [duffmeister@rcn.com](mailto:duffmeister@rcn.com) with your name, and number of people in your party, indicating if you plan to camp or just observe. Questions can be directed to the same email address.

### SITE INFORMATION

Pulpit Rock Astronomical Park, or as it is commonly called, "The Rock," is a 4.3-acre mountaintop site near Hamburg, Pa that sits 1,600 feet above sea level on the Appalachian Trail. The installations and equipment at Pulpit Rock offer the serious amateur or the novice an opportunity to contribute meaningful scientific information to the astronomical community, or to simply view the splendors of the heavens from our several acres of landscaped grounds. The site was founded in the 1960's by Henry Kaweck, an industrialist from Berks County, who built the first observatory.

### DIRECTIONS AND SITE ACCESS

Directions to the site can be viewed at the LVAAS website. For LVAAS nonmembers or members without keys **the locked gate will be attended on Friday August 11 from 4:00 p.m. to 7:00 p.m. and Saturday August 12 from 4:00 p.m. to 7:00 p.m.** Upon access to the site, you will receive the combination to the special gate lock used for this event and will be free to come and go until 12:00 noon on Sunday.

### FOOD SERVICE

There is **no food service and no potable water** so please plan on bringing your own food and water. If you do plan on bringing your own food and cooking it yourself, you must use either a charcoal or gas grill for cooking as no open fires are permitted on site.

### FACILITIES

There are **no shower facilities**; however, there is electricity and a flush toilet available on site. Please visit the LVAAS website for information on Pulpit Rock Astronomical Park.

Submitted by Tom Duff, AstroImaging Director



## **Minutes from the LVAAS General Meeting – July 9, 2023**

The July 2023 LVAAS General Meeting was conducted electronically using an on-line service and at the South Mountain headquarters. Approximately 80 people were in attendance. Director Michael Huber opened the meeting at 7:05 p.m.

Tonight's General Meeting's presentation was given by Society members Peter Detterline and Gary Becker, who spoke about The Solar Eclipse of 2024 and their recent Australian trip. Peter has been teaching Astronomy in Boyertown, PA and runs their Planetarium. Gary teaches Astronomy also, at Moravian University in Bethlehem PA. They have been friends and shared their interest in astronomy since Peter was a student teacher for Gary in 1981. Since then they have shared multiple astronomy-related trips together, frequently to view eclipses, including their recent trip to Australia.

On April 20, 2023 they were on a dedicated cruise to view the eclipse in Australia along with approximately 2000 others. They then traveled to Franklin River in Western Australia for deep-sky imaging of the southern sky. They shared many of their images including the Eta Carinae Nebula, the Milky Way Galactic Bridge, the Tarantula Nebula and the Lagoon Nebula. They also discussed what is involved with imaging in such a remote area.

Peter and Gary then discussed the annular eclipse that is coming in October, and recommended that it is a good way to practice for next year's total eclipse. They plan to view the eclipse from the Mars Desert Research Station in New Mexico. With the sun's activity cycle approaching its maximum, they expect very vibrant eclipses. They encourage everyone to catch the April 8, 2024 total eclipse as there won't be another in PA until 2079. Totality will be over 4 minutes, decreasing in length as you go further to the northeast along the projected path. They further recommend staying where it will be an easy drive to totality, while choosing a location with historically lower cloud cover, but to allow for flexibility to travel depending on weather the actual day of the eclipse.

They also discussed the equipment for viewing the eclipse. They recommend getting solar eyewear from Rainbow Symphony. They also offered that you could use a welder's filter, either #13 or #14. If using a telescope, the filter should be placed in line prior to the light entering the tube, and they also recommend an Astrozap Solar Filter. They offered that smartphone photography is also an option. They finished by adding if you miss this total eclipse, there will be another total eclipse on August 2, 2027 in Africa that includes the Nile River, with over 5 minutes of totality and near zero chance of rain or clouds. There will then be another total eclipse in Australia with over 5 minutes of totality on July 22, 2028 that goes through Sidney (keep in mind that July is winter in Australia.)

After questions from the audience were taken, there was a raffle of a set of knives with astronomical images that was won by Blaine Easterwood. The meeting took a break starting at 8:40 p.m. At 8:55 p.m. the Informational Meeting began.

#### Membership: Rich Hogg

- The following members completed their second readings and are now full members:  
William Amtmann  
Jonathan Cuadra  
Kari Fobe and Ryan Jones (family membership)  
Robert Lehman  
Bob Lewis  
Cedric A. Lumsden  
Kevin Patterson  
Frank Romano
- The following members completed their first readings:  
Josh Stoica  
Sandra and Paul Szalinski (family membership)
- The following members have previously completed a first reading and are still eligible to complete a second reading to become full members:  
Andy and Tori Hernandez (family membership)  
Karen Houser  
Nino Soberon  
Michael Vila  
Chris Webb (family membership with son Johnny)  
Steve and Linda Zieniewicz (family membership)

#### Director's Comments: Mike Huber

- Mike warned that some members have been getting false emails by someone impersonating him. Please be on your guard and check the email address where the email originated.
- An email has been circulated about Muhlenberg University looking for someone to teach an Astronomy course which would mostly be at night for adults. Anyone interested in applying can contact Mike.
- Because of personal circumstances, Mike announced that he would not be seeking reelection for the position of Society Director.



### Treasurers Report: Blair Hogg

- Because this is his second year as Treasurer, Blair announced that the position is up for election. Anyone interested is welcome to talk to him about what is involved.

### South Mountain Maintenance – Bill Dahlenburg

- Bill will be recruiting for those willing to serve as Society officers.
- He also reminded members that they (Bill, Earl Pursell, Mike Clark and Pete Brooks) tend to be at South Mountain on Saturday mornings and are available to train members on the scopes, or help with any issues you have with equipment.
- As an added attraction, if it is clear, they will have both White Light and Ha Solar Scopes going.

### Pulpit Rock Observatories – Frank Lyter

- Frank and Ron Kunkel encouraged anyone interested in getting involved with maintenance or work parties, or for training on the telescopes, to sign up for the Pulpit Rock Groups.io.

### AstroImaging - Tom Duff

- The next AstroImaging meeting will be held on Saturday August 19 at 7:00 p.m. at South Mountain. We try to discuss topics that will appeal to a wide range of experienced imagers, from beginner to advanced.
- If interested you are encouraged to join the AstroImaging groups.io.

### General Comments:

- Bill Dahlenburg announced that he would like to retire as Chairman of the Star Party Committee and Nominating Committee. Anyone willing or interested in these positions are encouraged to contact him.
- Mike Clark announced the winners of the silent auction for two telescopes that were auctioned off at the picnic. Gregg Heimer had the winning bid of \$75 for the Orion SpaceProbe 130ST and Kevin Patterson's bid of \$50 won the Orion 8" Deep Explorer Space Dobsonian.
- Kyle Kramm reminded everyone about the Stargazers Meeting on the second Friday of each month at 7 p.m. This is an informal meeting for society members particularly targeting those with limited astronomy skills or those with equipment they would like help with. The August meeting will be at Pulpit Rock on August 11 as part of MegaMeet. There will be someone at the gate from 4 to 7 p.m. for those who may not have a gate key.

- Paul Tracy wanted to make everyone aware that there is an interesting YouTube video available by Dr. Becky on looking for Gravitational Waves using Pulsar Timing Arrays.

<https://www.youtube.com/watch?v=BUmJxZ7PQzw>

Next General Meeting:

- The next General Meeting will be at Pulpit Rock on Saturday August 12 at 7 p.m. and will be part of MegaMeet. LVAAS Assistant Director Sandra Mesics is planning to speak on the history of Pulpit Rock. There will be someone at the gate from 4 to 7 p.m. in case you don't have a key. If you have not been to Pulpit Rock before, this is an excellent opportunity to see the facility.

The July 2023 General Meeting was recorded.

The meeting was adjourned at approximately 9:15 p.m.

Submitted by Joe Zitarelli, Secretary



## Claudio T. Stabile 'Astronomy in the Community' Eagle Scout Project Update

15 year-old LVAAS Family Member, Troop 102 Life Scout and Senior Patrol Leader Claudio T. Stabile closed out the month of June by exceeding his fundraising goal of \$3,000 for his Eagle Scout project, bringing in a total of \$3,890.24. The extra funds will go towards remote sensor cameras and other security features. The project brings Astronomy to the community with an Astronomy Observatory at the Polk Township North Field, with Polk Township as the service project beneficiary. This was made possible by the generosity of our community and the following sponsors:

The Lehigh Valley Amateur Astronomical Society (LVAAS), The Charlie Bates Solar Astronomy Project, Sunlit Earth and director Stephen W. Ramsden, The Joe Sommer Memorial Golf Committee, The Blue Ridge Flea Market & KC's Grill, Scoutmaster Jeremy Livingston and the Livingston Family, Marianne, Robert, Joseph & Lilian; The Smith Family, Chris, Barb, Charles & Jonathon; The Giunta Family, Mark, Amanda, Mira & Silas; the Adam Martin Jablonski Foundation, Saint Matthew's UCC Church, The Fontana Family, Cecilia, Michael, Natalie & Julianne; Michael Huber, Rich Hogg, Ronald Kunkel, Vince Morello, Chuck Wentzel, Ryan Wheeler, Erich Loch, the Deemer Family, Carole Lee, Glenn, Jack & Sam; the Gregorakis Family, Debbie, George & Tyler; Staci Gower, Down Home Metal Designs LLC, The Serfass Family, Lauralee, David, Leah & Wesley; The Cuddy Family, Miriam, Chris, Gabby & Sofia; Manuela Castano, Thomas Duff, Jacqueline Olexa, Sandra Mesics, John Fontana, Brett Begovich, Rosemary Brown, Sheri Mooney, Michael Hansen, Alicia Jaronie, Anonymous, Elizabeth Goodwin, Carmen Agostini, Colette Manhire, Stacia Cellura, the Stabile Family, Bernadette, Claudio M., Ava & Darius; and the community!

With the utmost sincerity and appreciation - WE THANK YOU!!!!

After securing building permits and attaining BSA Certificate of Insurance, Claudio broke ground on July 15th. His goal for a FREE Grand Opening Star Party is August 18th!! Please be on the lookout for a membership-wide email announcement. Thank you everyone for your support!!

The attached image is the current project status, the foundation for the storage shed!



### ***Via Sandy Mesics, Programs Chairperson***

#### **Upcoming LVAAS General Meeting Speakers**

**August: (Pulpit Rock)** Jonathan Cuadra will speak on his Photometric Study of Variable Star SS Cygni.

**September:** Charles Bracken (via Zoom) will speak on Astroimaging.

**October:** John Conrad (via Zoom) will speak on the Osiris Mission.

**November;** (tentative) author Dava Sobel (via Zoom) will speak topic TBA.

**December (Holiday Party) Speaker is still needed for this event.**

Please contact [astrosandy@gmail.com](mailto:astrosandy@gmail.com) if you have ideas for speakers, or would like to volunteer yourself!

### ***Via John Kmetz, Meteor Camera***

There was an impressive fireball seen in the skies along the East Coast, USA on the morning of August 2. Here are informational links, and a YouTube video from someone lucky enough to have captured it:

<https://spaceweather.com/>

[https://ams.imo.net/members/imo\\_view/event/2023/3961](https://ams.imo.net/members/imo_view/event/2023/3961)

[https://www.youtube.com/watch?v=9q\\_Crmh4zWw&t=4s](https://www.youtube.com/watch?v=9q_Crmh4zWw&t=4s)

Our meteor cameras didn't seem to catch the event directly, but an indirect bright flash may be apparent in some frames. As the FOV is to the north, we don't cover the whole sky. I'll have to check my All-Sky cam to see if there is anything there. Anyone else who has an all-sky cam can check around 2 a.m. for any occurrences.

### ***Via Dave Raker, Society Librarian***

I made a DVD of Gary Becker & Pete Detterline's "Eclipse Mania" talk. I will be conducting inventory of the library collection the week of August 7. The library will remain open during inventory.

### ***Via France Kopy, Newsletter Editor***

Do you own a camera or smartphone and usually attend LVAAS functions? Would you like to help out LVAAS and our newsletter as a volunteer? *The Observer* is in need of members to act as photographers in an informal capacity to capture the action at various society events, both public and members-only. You will receive a published credit under each of your photographs, and a mention in the black box on the last page of every newsletter. Please contact me at [editorlvaas@gmail.com](mailto:editorlvaas@gmail.com) if you'd like to volunteer and for more information.

### ***Via Mike Huber, Society Director***

Muhlenburg College is seeking applications for the role of Adjunct Professor (CTE) for the course "Introduction to Astronomy" left vacant upon the passing of our dear Judy Parker last September. Anyone interested please contact Mike for details.

### ***Via Earl Pursell, UACNJ Liason***

UACNJ provides free public programs on-site at our Observatory in Jenny Jump State Forest, New Jersey from April through October on Saturday evenings. To view the program line-up please visit [uacnj.org](http://uacnj.org).



**Cover Image: IC 443 The Jellyfish Nebula Imager: Paul Tracy**

#### **Aquisition Data**

Takahashi FSQ106EDX4, f/5

Canon 6D unmodified OSC, 36mm x 24mm, uncooled (~14C)

Image Scale 2.54 arcsec/pixel

Triad Ultra Filter (3-5nm Ha, Hb, Sii, Oiii)

37 x 300 sec lights

[more](#)



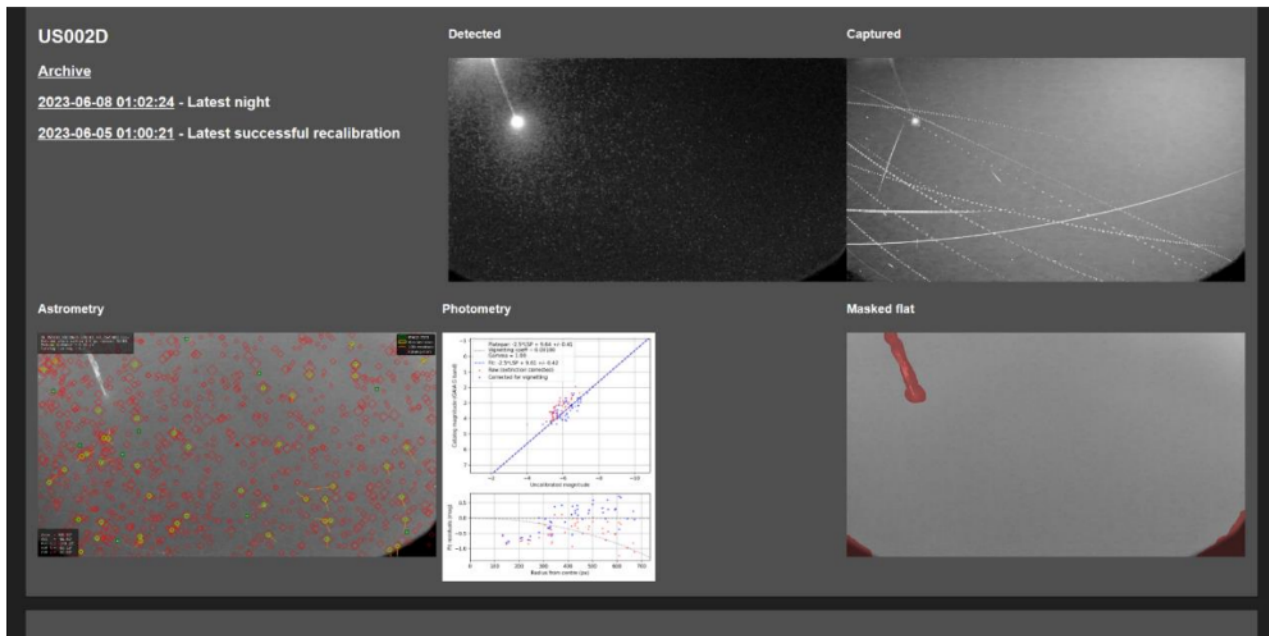
# Meteor Camera Update

By John Kmetz and Frank Lyter

It's hard to believe but it's been a year now since LVAAS decided to join the Global Meteor Network (GMN). Previous posts have described some interesting meteor showers we have captured along with some nice fireballs. But now our data and images can be viewed by all LVAAS members and the general public. Recently the GMN had decided to include the nightly timelapse videos in their own weblog, along with the other information like the daily meteor stack and radiants charts and graphics. Prior to this each station had to process their own videos and upload through Istrastream, a tedious and time-consuming process. Now all US stations can be found at:

<https://globalmeteornetwork.org/weblog/US/index.html>

And the South Mountain station is as seen in this example:



The latest night's link where our video (scroll to page bottom) can be found along with the other astrometry info is at: [US002D \(globalmeteornetwork.org/\)](https://globalmeteornetwork.org/US002D/) Also here is the link for all prior nights in their archive: [Index of /weblog/US/US002D/ \(globalmeteornetwork.org\)](https://globalmeteornetwork.org/weblog/US/US002D/)

Right now, we have three operating meteor cameras, US002D (South Mountain), US002E (Terry Pundiak in Easton), and US002L (John Kmetz in Upper Providence). Any member who wishes to join the GMN and participate in the LVAAS effort can build their own station from parts for about \$200-250. We can also assist in the assembly for anyone interested. All you need is a decent view of the night sky and a wall or post upon which to mount it. Please contact Frank Lyter if so inclined.

# **Stargazers Group**

**Come join the Stargazers Group!**

**All members are welcome regardless of experience!**

**New members are welcome to learn how to operate their telescopes**

**Experienced members can share their knowledge and socialize in a casual, relaxed atmosphere**

**The group's goal is to give everyone a chance to develop their night skills together regardless of experience level!**

**Take this opportunity to use the library and receive training on the club's scopes**

**Meetings will be on the 2nd Friday of every month at South Mountain Headquarters at 7 p.m. rain or shine, except for December, January, and February (\*August 11 at Pulpit Rock)**

**If you need help with equipment please arrive before dark so there is time to work on it**

**We all love the night sky and look forward to sharing that with you!**

**Kyle Kramm**

**[Kman10274@gmail.com](mailto:Kman10274@gmail.com)**





# LVAAS General Meeting

**Saturday, August 12 at 7 p.m.** 💧 Rain date Aug 13 at 7 p.m.

**Pulpit Rock Astronomical Park** *Directions*

## 'Photometric Study of Cataclysmic Variable Star SS Cygni'

*presented by*

**Jonathan Cuadra**



Variable stars are stars that fluctuate in brightness. Using photometry (measuring light via images), variability in brightness can be quantified over time as data. These data are then plotted as a light curve (a graph of the magnitude of light over time), analyzed, and can be corroborated with other stellar data to determine aspects of the star. In my research, I am utilizing an Orion 8" RC Reflector Telescope, CCD monochrome camera, and Aperture Photometry Tool (APT) to locate, observe, and record new data for a particular category of variable star. The star I am researching is SS Cygni, an intrinsic, cataclysmic, binary variable star. The goals of the research are: to produce light curves, analyze them, and determine if significant deviations from the typical trend lie in new data compared to previous existing data. SS Cygni has a history of being irregular in its period; in the 1990's it had considerably unique behavior from its typical trend. Therefore, I thought it to be fitting for an academic summer research project.

**Jonathan Cuadra** is an aspiring Physics Major at Muhlenberg College, soon to be in his 2nd year. He has been fascinated by the cosmos since he was young, and has always had lingering questions about how the universe and things in it work. Throughout his academic career and research opportunities such as the one he will be speaking about, he has been able to embrace his curiosity and interests. Jonathan hopes to, in the future, harness these traits of his into works that he can make a career out of. In his free time, Jonathan enjoys spending time with his family, cat (her name is Janey), equally-as-nerdy-as-him girlfriend, and on trips and vacations.

*Prospective new members who wish to attend the meeting should email [membership@lvaas.org](mailto:membership@lvaas.org).*



### **The Eastern Veil Nebula**

**Imager: Peter Anton**

#### **Acquisition Details:**

Skywatcher Evostar 80ED with 0.85x reducer

ZWO ASI 294mc Pro (cooled to -10C)

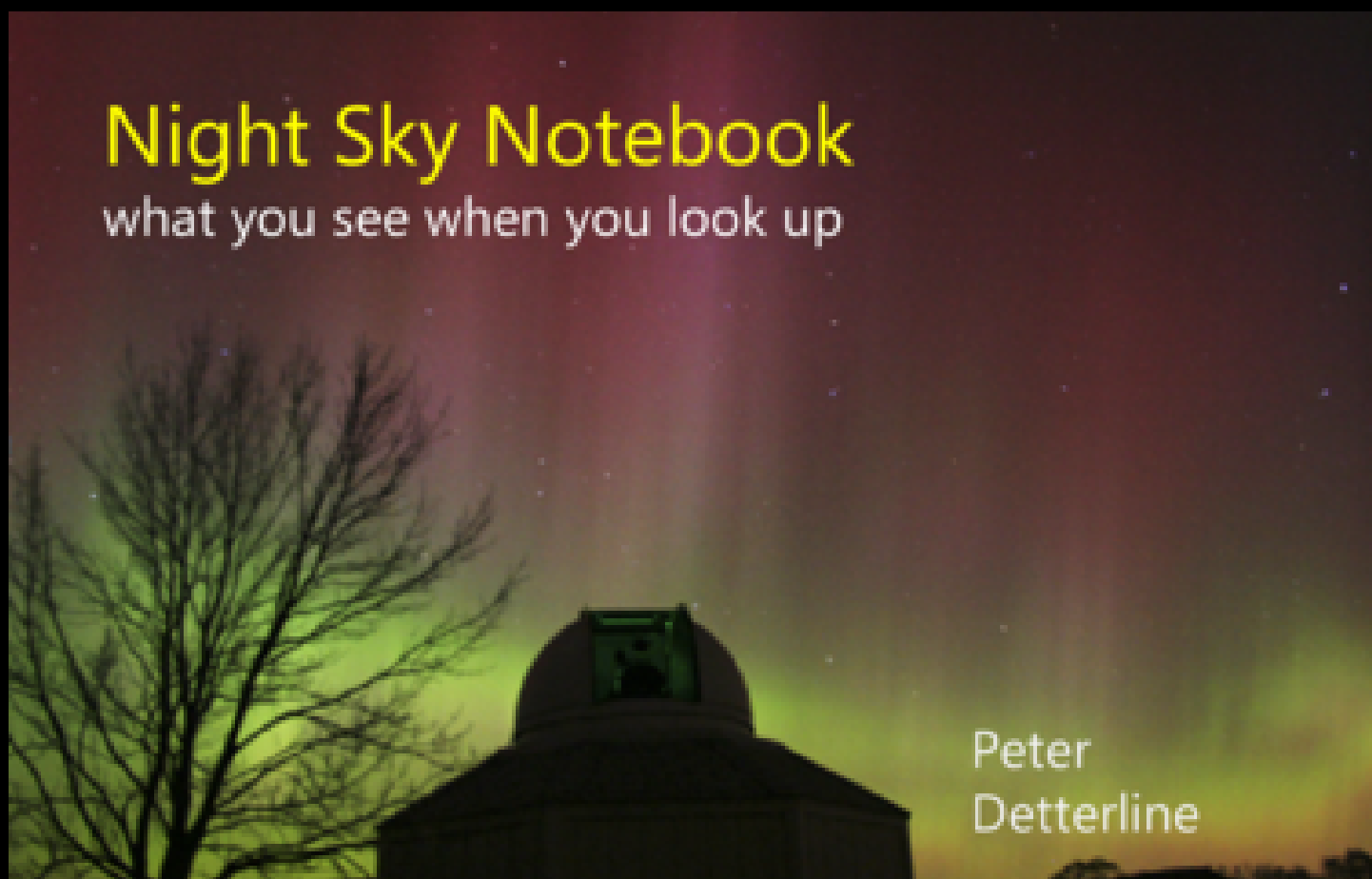
Optolong L-Extreme DuoNarrowband filter

225' total integration time (45 x 300" sub frames)

Processed in Pixinsight using Russell Croman's XTerminator tools



*Peter Detterline's*  
**Night Sky Notebook**  
AUGUST 2023







# StarWatch

## An Epiphany of Sorts

Besides learning to love an Australian breakfast with its beans, sausage, Canadian bacon, potatoes, eggs, sautéed mushrooms, fruits, and the best cups of coffee I have ever consumed (a long black with cream), I had an epiphany of sorts with the way I do photography. I switched from my usual Canon 80D DSLR (digital single-lens reflex) camera system with its fine assortment of zoom lenses to my Google Pixel 7 Pro mobile device which had an excellent reputation for imaging with its three dedicated, built-in camera lenses, as well as taking excellent photos in low light. My niece, Erin Kloss, had shown me her Pixel 6 images several years ago, and I was truly impressed. \* You might be laughing at this revelation since the digital revolution in photography has been with us for several decades and billions of phones snap pictures daily, but then you might also understand how finicky I am about imaging and creating a memory when traveling. If I have any artistic talents, they are expressed through my photography. This is likewise not to criticize the pro photographers, like Steve Miller who works for Dan's Camera City in Allentown and uses a DSLR system. His nature photography is superb. The Pixel camera is similarly not for the person who

specializes in astrophotography. Here I still recommend a DSLR system or a digital camera specifically designed for astronomical applications. \* What "blew me away" regarding the Pixel 7 Pro was its dynamic range, its ability to capture detail in the high contrast, bright portions of an image, as well as information in the shadowy parts of the photograph, something which my Canon 80D has difficulty in obtaining without a good workout in Adobe Photoshop. \* The eye opener occurred when I decided to image a sunset while cruising on the *Pacific Explorer* on the evening before the April 20 total solar eclipse. I brought with me on deck my DSLR system, along with a tripod and my mobile phone stowed in my pocket, figuring that the DSLR would run circles around my mobile device. What I discovered was just the opposite. The Pixel 7 Pro produced superb colors and a higher dynamic range than my DSLR. I enthusiastically submitted to imaging with my mobile phone throughout the rest of my Australian trip, except for the astrophotography that was completed near Franklin River, Western Australia. You be the judge. A PowerPoint presentation of my trip can be found at [astronomy.org](http://astronomy.org) Ad Astra!





**The Large Magellanic Cloud (LMC)** is a captured satellite galaxy of the Milky Way. Located at a distance of about 160,000 light years, it looks like a fuzzy blob from Australia. However, a 90 second exposure at F/2 with a 135mm lens reveals plenty of detail and much of its structure. The LMC is currently being ripped apart by the Milky Way, eventually to be cannibalized and digested by the MW. That is how galaxies grow. Source: [astronomy.org](https://www.astronomy.org) Image courtesy Gary A. Becker

## A History of The Schlegel-McHugh Observatory

By George H. Maurer (1998) revised by Sandy Mesics (2021)

The construction of the Schlegel-McHugh Observatory was the first major undertaking following the dedication of the South Mountain facility in September of 1963. It came about as the result of a coincidence of three events that occurred in the years of 1965 and 1966.

Ralph Schlegel, a skilled optical worker and ardent telescope maker, had a broad number of acquaintances with many other people with the same hobby through attending various amateur meets and conferences. Our formal dedication of our South Mountain facility was well publicized, and this led to our being approached by some members of the optical section of the Amateur Astronomers Association of New York City. This



Ralph Schlegel working on the 20-inch mirror at South Mountain.

group met at the Museum of Natural History where they were provided with a room for their work. They had started a project to build a large telescope in 1937 and had begun to grind a 20-inch mirror. Their work was interrupted by World War 2 and in the post-war period, the project came to an end when it became evident that the location of their proposed observatory was no longer available. At the same time, the museum notified them that they needed the room they were using and requested them to move their equipment.

We were offered the 20-inch Pyrex mirror blank along with the grinding machine they had used

LVAAS sponsored a Symposium of amateurs from clubs in the Mid-East Region of the Astronomical league in September of 1965. One of the visiting clubs was the Astronomical Association of New







**Bill McHugh (left) and Ralph Schlegel (right).**

Jersey who presented us with a 20-inch optical plate (Schott Glass) for either a window or corrector plate for our proposed telescope.

It was in the Fall of 1966 that we were offered an ideal observing site at Pulpit Rock. These three events together provided all the incentive needed to undertake the construction of a major amateur observatory. The Society was most fortunate in having members whose specialized skills would make this possible. Ground was broken following the completion of the road in the summer of 1967.

Both Ralph Schlegel and Willian McHugh took charge of the design and actual optical work. Each Friday night for almost six years, Schlegel and McHugh polished and tested the mirror, while also working on the mechanical aspects of the scope. The Director, Ernest Robson took charge as manager of the project by soliciting funds and arranging for materials and needed help. Our Secretary, Louis Ungar, was a construction engineer and prepared blueprints for the steel framework which was prefabricated commercially for us at cost. Special forms for the telescope pier were built by labor and materials supplied by Machin Construction Co. As we started this project, we were well-funded thanks to the generosity of Mr. Kawecky and the membership fund drive. The grants obtained from industry and friends of the society together with the surplus left from the road expense gave us clear sailing! Nevertheless, there was virtually no finished piece of equipment bought commercially during the whole project, and only a few instances where outside help was required.



1969 Dome in place.

A great many of our members pitched in over the next few years as the building took shape. As the colder weather set in, work on the mounting and optics progressed over the winters at South Mountain. Both the building construction and telescope work continued in this manner.

In early 1968, the Society received two donations from Berks & Lehigh County industrialists totaling \$2000 for an observatory. Mayer-Pollack of Pottstown fabricated parts for the foundation of the observatory and pier of the telescope. Thomas Miller of Hamburg did land clearing and pouring of the foundation and the 15-foot, 25-ton pier. Machin Construction Co. fabricated forms. Mike Spacek fabricated the dome rings and steel for the building walls. Louis Unger, an engineer, and a member of LVAAS, drew up the plans. Hand digging of the foundation began in May 1968. In August 1968, the tradition of having the general meeting at Pulpit Rock was commenced. That month, the foundation was poured, and the walls were being erected. In late

August, the telescope pier was poured. At the same time, a 12 ft x 24 ft slab was poured for members to set up their telescopes.

In July 1969, the 15 ft. silo dome was assembled on the dome ring. Meanwhile, work on the 20-inch scope went on at South Mountain, where between 1970 and 1973, the telescope was assembled bit by bit. On Friday, April 6th, 1973, and LVAAS crew disassembled the scope for transport to Pulpit Rock. A block and tackle arrangement was constructed in the back room at South Mountain to lower the 450 pound tube to the floor. The 200-pound fork assembly was lifted from its place by brute force, leaving the 600-pound base remaining.

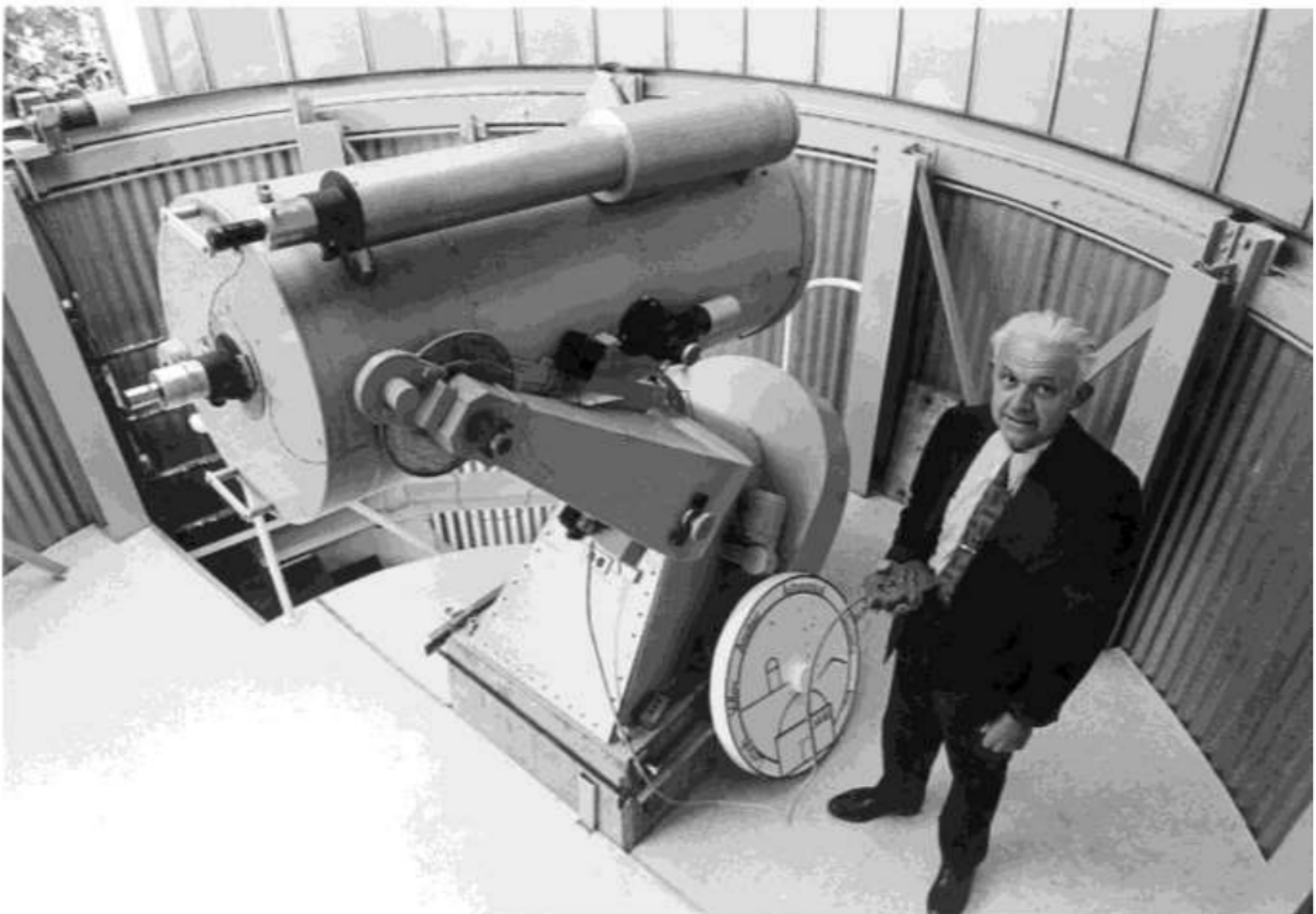
On Sunday, April 8, 1973, a cold rain mixed with intermittent wet snow greeted the group as they made their way from South Mountain to Pulpit Rock. When the group arrived at Pulpit Rock, it was greeted by snow, wind, and copious supplies of mud which made it difficult for the trucks to maneuver into position. Pulleys and chains were hung in strategic position below and from a special scaffolding



constructed on the second floor. A steel cable was positioned and attached to the base, then tested and retested again. A final signal was given, the cable tensed, and with a slow jerky motion the base inched toward the ceiling. Once above, it was rested on a platform then slid onto its concrete pier and bolted down. In short order the fork and tube followed. The fork was attached onto the base, but because of the tube's weight and lack of time, no attempt was made to join it with the mount.

Five years of effort by Ralph Schlegel and Bill McHugh was safely moved and positioned in place. During the remainder of 1973 and early 1974, the 20-inch optics were completed and aluminized at Denton Vacuum in Cherry Hill, NJ for a modest \$50. The Observatory and scope were painted, the grounds cleaned up, and finishing touches were given to the building.

Both the building and telescope were completed in August of 1974, a little over five years since the groundbreaking. The observatory was officially named the Schlegel-McHugh Observatory in recognition of their outstanding work in the design and construction of that facility. A formal dedication program was held on Saturday, October 5<sup>th</sup>, 1974, under a beautiful clear sky and gentle warm breezes. About 75 people were in attendance.



**Ralph Schlegel and the 20-inch scope in the Schlegel-McHugh Observatory**

The telescope was put in operation without the correcting lens mounted on the front of the telescope. Producing the required aspheric curve on the glass plate was never successfully achieved, so that the telescope suffered from off-axis coma. This fault did not matter for the use it was put to.

For many years, the scope was used in a photometry program sponsored by Villanova University. Villanova loaned LVAAS a 1P-21 photometer and supporting electronic equipment. Society members conducted the actual photometry: the data was then sent to Villanova where it was reduced and analyzed for publication. A few of the stars that were observed were RS Vul, VV Cep and VW Cep. Additionally, observations were made in conjunction with Vanderbilt University on a few RS CVn-type stars, and this data was also reduced, analyzed, and published. LVAAS members and Villanova employees spent virtually every clear night using the observatory to carry out this work. During the years of this program, much data was gained along with two discoveries that the members were credited with.

After the photometry program wound down in the 1980s, the 20-inch telescope's shortcomings became more glaring. In Spring 1990, the club purchased a Paracorr coma corrector, but it had no effect on the telescope's coma, so the item was returned for a refund. In 1993, LVAAS turned to Paul Shenkle, a member and professional optician who had worked for Questar and Optical Techniques. Paul took on the project of improving the optics and the mechanics of the telescope. It was to be refurbished and modified to either a Dall Kirkham or classical Newtonian form. These modifications would provide a sharper edge-to-edge field. But the optical set would remain in place until 1998, as Shenkle had other priorities. The optical set was finally moved to Shenkle's optical shop on February 1, 1998. Paul estimated that the work would take about 2 years.

TWENTY-INCH REFURBISHMENT.....PAUL G. SHENKLE.....855-3551  
a. WORKING ON TOOLING for the project. Doing the figuring is the desert. Time to begin testing will be in early 1994.  
b. COATING ON THE PRIMARY MIRROR BAD. Mirror will need to be cleaned or resurfaced. Paul does not recommend tackling this project until the telescope is in working order.  
c. Balance of telescope has to be redesigned to counter the extra 50 pounds of additional weight created by the corrector plate and cell. Will add at least 150 pounds of weight to the back end of the scope. This system will be adjustable for the mounting of other accessories onto the telescope, such as cameras.  
d. What arrangements are being made to bring the building into better repair while work continues on the telescope?

1993 Observer notice about work to be done on the 20-inch.

Though the optical set was now removed, the mount and platform housed a 1000 mm Nikon lens that some members used for imaging. Meanwhile, while awaiting the optical refurbishment, the building continued to be maintained and underwent a "facelift," from new tile and paint, to improved electronics on the mount. It was refurbished again in 2003 when LVAAS member Ryan Hannahoe earned his Eagle Scout badge for his work on the observatory. In 2005, there was discussion about obtaining a "go to" telescope for Pulpit Rock, as well as a discussion about getting the 20-inch telescope back on line by using a series of corrector lenses. During the years the scope languished, both Ralph Schlegel and Bill McHugh passed away, Schlegel in 1995 and McHugh in 2006.

Sadly, the refurbishment of the optical set never happened. Shenkle's failing health caused him to shelve the optical set. He passed away in 2014 at the age of 87, and the unfinished optical set was returned to LVAAS and put in storage.





**An LVAAS work crew prepares to move the Tinsley mount into the Schlegel McHugh Observatory.**

Meanwhile, a breakthrough happened in September 2012, when Kutztown University offered LVAAS their 18-inch Tinsley Cassegrain that had been in use in their observatory since 1968. Tinsley started making scopes in the 1920s and catered to both the amateur and the professional markets. By the 1950s and 1960s they were supplying telescopes to many universities, among them Kutztown. They had a reputation for fine optics and reliable electronics. The tube assembly for the 20-inch telescope was removed and stored in the Pulpit Rock Storage Shed. The new Tinsley telescope required modification



to fit into the observatory, and work proceeded under the direction of Ron Kunkel. The mount was installed in May 2013. In August 2014 the Tinsley telescope was installed and the observatory rededicated. Present to talk about the history of the telescope was Phill Reed, Carlson Chambliss, Gary Becker, and Peter Detterline, all of whom used the instrument at Kutztown over the years. Thus, for the first time in 16 years, LVAAS had a usable telescope in the Schlegel-McHugh Observatory.

In the past decade, the observatory has seen good use, as a visual and astro-imaging platform. The mount has been maintained and upgraded by Rich Hogg, using his considerable talent to improve the instrument. Ron Kunkle and team have installed work surfaces under the dome, adding to the utility of the building.







## StarWatch

**Bonus!**

### Perseids to Sizzle this August

*The article was originally written for Moravian Magazine to be published in its August 2023 edition.*

When I was a kid, money was tight but looking up at the sky was free. Watching for meteors, sketching the constellations, and observing the heavens through my grandfather's binoculars became favorite pastimes during those early years. This eventually led to a career in astronomy education, first in the Allentown School District Planetarium for 38 years, and presently at Moravian University, where I will start my 14th year of instruction this coming fall semester. Without a doubt it was the Perseid Meteor Shower that inspired my serious career interests in astronomy and my first scientific observations of the night sky. \* As comets orbit the sun, they leave behind a trail of dust and gases. If the Earth passes through one of these powder trails, the dross can enter the Earth's atmosphere where it rapidly disintegrates, causing a column of air to glow around it which creates the meteor or shooting star phenomenon. The Perseids originate from Comet 109P/Swift-Tuttle which was last seen in 1992. The point in the sky from which the Perseids appear to originate (called the radiant) is located in the constellation of Perseus, hence the name of this meteor shower. \* Saturday morning through Monday morning, August 12–14, will present a wonderful opportunity to view the 2023 Perseid Meteor Shower. Maximum activity is slated to occur during the post-midnight hours of the 13th. \* Meteor showers are not meteor storms, so don't expect to see shooting stars every second or two. Often Perseids occur in bunches. You might catch two or three in a minute's worth of observation and then not see any for several minutes. In Montana in 2016, I saw six Perseids in a 15-second interval followed by a period of 10 minutes of inactivity. So don't become disappointed if you hit a lull; you will see many

Perseids if you are persistent. \* The most critical factor when looking for shooting stars is the darkness of your observation location. Watching from the Sky Deck at Moravian University in Bethlehem, you may see five Perseids per hour. From a rural location like Cherry Springs State Park, Pennsylvania's dark-sky observation site near Coudersport, you may average as many as one meteor per minute. \* Regardless of your locality, you'll see the most Perseids by looking toward the zenith, the top of the sky, which is generally the darkest region of the heavens. All meteors that are part of an organized group move through the sky from a radiant. Before midnight that position will be low in the northeast, so Perseid meteors will appear to be spraying outward from a location near the horizon. As the night progresses, the rate of seeing Perseids will increase as the Earth's rotation moves the radiant higher into the sky. You'll then be catching meteors from both above and below the radiant. In addition after midnight, the Earth plows into the meteoroid debris similarly to the front windshield of a moving vehicle getting splattered by more raindrops than the rear window. \* Many astronomy enthusiasts call the Perseids the best shooting star event of the year, although it does not produce the highest number of meteor counts. For that, try the Geminids in frigid December. The Perseid Meteor Shower, however, combines relatively high rates of meteor counts with warm summer nights when many families are on vacation, including camping trips away from city lights. \* Whether you are one of these folks or simply curious to see a meteor event, spend a few hours viewing the dark sky between midnight and dawn on Sunday morning, August 13, when Perseid rates are predicted to be at their highest. Much success in your Perseid hunting. More about the Perseids next week. Ad Astra!

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## FOR SALE

### Orion Short Tube 80 mm Refractor Telescope



I have this Orion ShortTube refracting telescope for sale that has an 80 mm objective and a 6x30 finderscope with dove tail mount. I do not have eyepieces or a diagonal for the telescope. The scope can mount on most camera tripods. The telescope comes with a box and was hardly used.

**\$89**

Contact David Raker at [draker@cedarcrest.edu](mailto:draker@cedarcrest.edu) if interested. I can email more photos if needed.



# FOR SALE! LIGHTLY USED CELESTRON TELESCOPE/MOUNT SYSTEM

## LIGHTLY USED CELESTRON TELESCOPE/MOUNT SYSTEM

Celestron Advanced VX Mount (purchased 2017)

- Many features for star finding (>40,000 objects)
- Auto-guider to keep object centered
- See <https://www.celestron.com>

Celestron C102-HD Refractor Telescope (purchased ~1997)

- 102 mm dia, 1000 mm focal length
- Finders scopes
  - Orion 9x50 Right Angle, Correct Image
  - Telrad Reflex Sight

Many Eyepieces:

- Orion Stratus Wide Field 1.25"/2"
- Meade Plossl: 5.5, 12.5, 20, 25 mm
- Filters: Moon, Polarizer, Cel. No. 8
- Thousand Oaks Optical 4 Channel Dew Heater control and heating straps

Orion Carrying Case for eyepieces +

Golf outer bag for holding everything

Total retail value about \$2000

Asking \$1,000 (price reduced)

Will sell mount and telescope (with original manual equatorial mount) separately

- Call for separate pricing

Jim Farrand

610-216-3438

[jcmfarrand@gmail.com](mailto:jcmfarrand@gmail.com)



## AUGUST

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		Full Moon <u>01</u>	<u>02</u>	<u>03</u>	<u>04</u>	<u>05</u>
<u>06</u>	<u>07</u>	Last Quarter Moon <u>08</u>	<u>09</u>	<u>10</u>	MegaMeet at PR <u>11</u> Stargazers Group Meeting <b>Pulpit Rock</b>	MegaMeet at PR <u>12</u> General Meeting Pulpit Rock - 7:00 PM
MegaMeet at PR <u>13</u> General Meeting (rain date) - 7:00 PM	<u>14</u>	<u>15</u>	New Moon <u>16</u>	Stellafane Convention <u>17</u>	Stellafane Convention <u>18</u>	Stellafane Convention <u>19</u> Astroimaging Meeting - 7:00 PM
Stellafane Convention <u>20</u> Deadline for submissions to the Observer	<u>21</u>	<u>22</u>	<u>23</u>	First Quarter Moon <u>24</u>	<u>25</u>	Star Party <u>26</u>
LVAAS Board of Governors Meeting <u>27</u>	<u>28</u>	<u>29</u>	Full Moon <u>30</u>	<u>31</u>		

## SEPTEMBER

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					<u>01</u>	<u>02</u>
<u>03</u>	Labor Day <u>04</u>	<u>05</u>	Last Quarter Moon <u>06</u>	<u>07</u>	Stargazers Group Meeting <u>08</u>	Astroimaging Meeting <u>09</u> - 7:00 PM
General Meeting - 7:00 PM <u>10</u>	<u>11</u>	<u>12</u>	<u>13</u>	New Moon <u>14</u>	BFSP <u>15</u>	BFSP <u>16</u>
BFSP <u>17</u> Deadline for submissions to the Observer	<u>18</u>	<u>19</u>	<u>20</u>	<u>21</u>	First Quarter Moon <u>22</u>	Star Party <u>23</u>
LVAAS Board of Governors Meeting <u>24</u>	<u>25</u>	<u>26</u>	<u>27</u>	<u>28</u>	Full Moon <u>29</u>	<u>30</u>





**Your Sky was implemented** by John Walker in January and February of 1998. The calculation and display software was adapted from Home Planet for Windows. The GIF output file generation is based upon the ppmtogif module of Jef Poskanzer's pbmplus toolkit, of which many other components were used in creating the images you see here.

ppmtogif.c - read a portable pixmap and produce a GIF file

Based on GIFENCOD by David Rowley

Lempel-Zim compression based on "compress"

Modified by Marcel Wijkstra

Copyright © 1989 by Jef Poskanzer.

Customize Your Sky at <http://www.fourmilab.ch/yoursky/>

# 2023 LVAAS EVENT CALENDAR

Contributed by Bill Dahlenburg

2023 LVAAS Event Calendar											
	Sundays			Saturday			Multi-Day Weekends Scouts at Pulpit R.	Moon Phase			
	General Meeting time	location	Board meeting	Astro- Imaging	Star Parties	Scouts at S. Mountain		New	1 <sup>st</sup>	Full	3 <sup>rd</sup>
January	8	3:00 PM Muhlenberg	29	no meeting	no meeting		no camping	21	28	6	14
February	5	3:00 PM Muhlenberg	26	no meeting	no meeting		no camping	20	27	5	13
March	12	3:00 PM Muhlenberg	26	no meeting	25		no camping	21	28	7	14
April	2	7:00 PM S.M.	30	22	29			20	27	6	13
May	7	7:00 PM S.M.	21	20	27			19	27	5	12
June	11	7:00 PM S.M.	25	10	24			18	26	3	10
July	8	5:00 PM S.M.	30	15	22			17	25	3	9
August	12	7:00 PM Pulpit	27	19	26			16	24	1 & 30	8
September	10	7:00 PM S.M.	24	9	23			14	22	29	6
October	8	7:00 PM S.M.	29	14	21			14	21	28	6
November	12	2:00 PM S.M.	26	11	18			13	20	27	5
December	9	2:00 PM ?	17	16	no meeting		no camping	12	19	26	5

July, Aug & Dec are Saturday meetings with rain date on Sunday  
 Jan, Feb & March meetings are at Muhlenberg College  
 August meeting is at Pulpit Rock  
 December meeting / Holiday Party (TBD)

NEAF 4/15 – 4/16  
 MEGA MEET 8/11-- 8/13  
 CSSP 6/15 – 6/18  
 Stellafane 8/17 – 8/20  
 BFSP 9/15 – 9/17 ??

## Publishing images is a balancing act!

When preparing your images for publication in The Observer, please consider the following guidelines:

### Put the quality in:

- ▶ Considering the "print" size of the image, make sure you have at least 150 pixels/inch.
- ▶ Use a reasonably good quality for the JPEG compression ratio.

### But watch the "waistline"!

- ▶ Don't go too much above 200 pixels/inch max.
- ▶ Use the lowest JPEG quality that still looks good!
- ▶ Shoot for <300KB for a 1/2 page image or <600KB for a full page.

**Tip:** If you're not Photoshop-savvy, you can re-size and compress undemanding images ("human interest" not astroimages), with an online tool such as:

<https://www.ivertech.com/freeOnlineImageResizer/freeOnlineImageResizer.aspx>. It will also tell you the pixel size and file size of your original, even if you don't download the processed copy.

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*No images of people under 18 years of age will be accepted for publication at this time.* Articles submitted prior to the Sunday before the monthly meeting of the board of governors (please see calendar on website) will appear in the upcoming month's issue. PDF format is preferred. Early submissions are greatly appreciated. Articles may be edited for publication. Comments are always welcome. Document proofread by Rich Hogg on a monthly basis.

LVAAS members please feel free to submit ads for astronomy equipment you have for sale, and additionally you may sponsor a maximum of three ads from non-members per year. Please submit your finished ad as a PDF, with pictures and text. Every attempt will be made to include submissions in a timely manner.

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