The Observer

The Official Publication of the Lehigh Valley Amateur Astronomical Society
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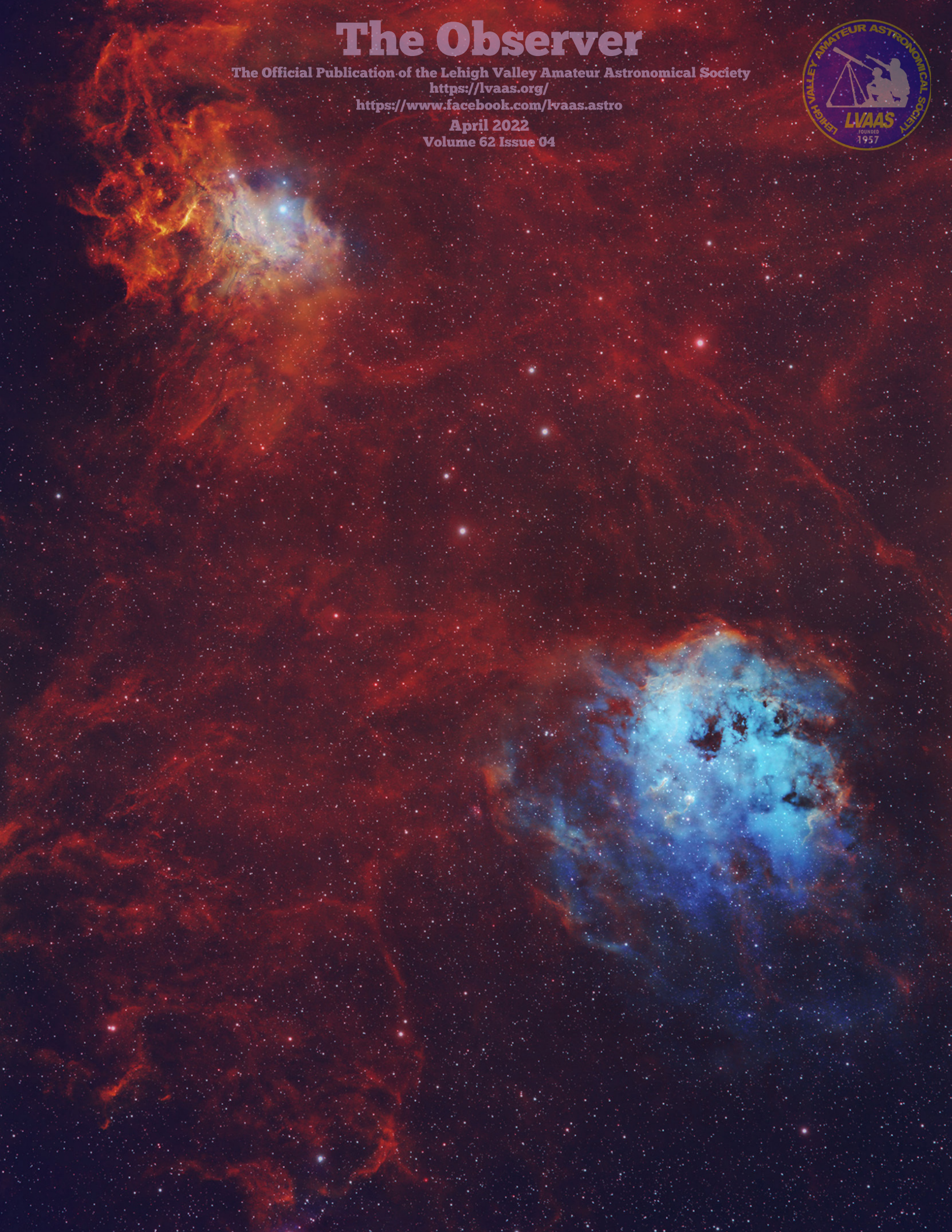


ad astra **********

One question we constantly get asked is where do I go to observe, where are there dark skies? While LVAAS has two sites at South Mountain and Pulpit Rock for members to observe, the skies here are not the best. There is another site in Pennsylvania where many observers go to get the darkest skies called Cherry Springs State Park. Cherry Springs State Park is an 82-acre Pennsylvania state park in Potter County, Pennsylvania. The park was created from land within the Susquehannock State Forest and is on Pennsylvania Route 44 in West Branch Township. Cherry Springs, named for a large stand of Black Cherry trees in the park, is atop the dissected Allegheny Plateau at an elevation of 2,300 feet (701 m). It is popular with astronomers and stargazers for having "some of the darkest night skies on the east coast" of the United States and was chosen by the Pennsylvania Department of Conservation and Natural Resources (DCNR) and its Bureau of Parks as one of "25 Must-See Pennsylvania State Parks" The location of the park is 41.6501 degrees north, 77.8164 degrees west, and offers a great view of the nucleus of the Milky Way Galaxy. The astronomy field offers an excellent 360-degree view of the night sky. All lighting in the park is shielded and all white light has been converted to red.

Cherry Springs Star Party - Registration is now open for the 2022 Cherry Springs Star Party to take place June 2nd to June 5th, 2022, at Cherry Springs State Park. Attendance is limited to 500 people so register early. As always, we will have our LVAAS Contingent attending.

Unfortunately, the weather did not cooperate for the March Star Party. This means the April Star Party will be our first in person Star Party. The plan is to have the children’s planetarium show at 6 pm, a 30 min pre-recorded slide show on NASA's exploration of our solar system at 7 pm, and the regular planetarium show at 8 pm. The BOG looks forward to seeing everyone at the April Star Party.

We are always looking for volunteers to assist with club events. These include Star Parties (Guiding Parking for Cars, Run the Red Shift, Run the various telescopes, and assist wherever necessary. Your help will be greatly appreciated. Please contact Preston Smith if you would like to volunteer. His email is on the LVAAS Website Contacts page.

Ad Astra!

Thomas Duff

Via Sandy Mesics: Upcoming LVAAS General Meeting Speakers

In April, **Doug Arion** will speak on "**Threats to Astronomy from Ground and Space**."
In May, **Jon Conrad**, NASA Ambassador will speak about "**NASA's Infrared Platforms**."
In June, **Gary DeLeo** will speak on **"A Tale of Two Circles: from Orbits to Atoms." (live)**
In July, **Ray Harris** will speak on **"Lost Constellations." (live)**
In August, **Frank Lyter** will speak on "**LVAAS Winter Projects, the Meteor Camera, and the Digital Setting Circles for the 17'' Dobsonian."**
If you would like to volunteer to present a talk Aug-Dec please contact Sandy **astrosandy@gmail.com**
(You will have at least 4 months to prepare!)

Via Dave Raker: New Books and DVDs

David Levy's Guide to Variable Stars 2nd ed
David Levy's Guide to Observing Meteor Showers
Felipe Maldonado The Big Bang and the Expansion of the Universe DVD
Dave is asking for recommendations for new books or DVDs!

Via Earl Pursell, UACNJ Liason:

Public nights begin Saturday, April 2 and continue every Saturday until Oct 22. Presentations will still be outside. The ban on using eyepieces and allowing people into observatories has been lifted. Video imaging is expected to remain a part of the experience. Construction of their two new observatories is being held up by the state, who must issue permits before anything can begin (there is a backlog). They are also looking for speakers. Please visit **www.uacnj.org** for more information.

Via Earl Pursell: Lockheed-Martin Spacemakers Podcast

[Launched Sept 1]...go behind the scenes of some of the greatest space exploration missions of our time, and... chat with our experts about how these missions are shaping the future of space..." click **here**

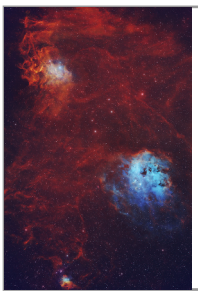
Also, **Dark Skies** Talk by Douglas Arion: **https://www.youtube.com/watch?v=zf9Lj5bymd4**

Via Michael Lincoln and Eric Loch: International Dark Sky Association Petition

Please access and sign the petition to create legislation to save our dark skies at this link: (VPN off)
https://www.change.org/p/senator-carolyn-comitta-improve-and-protect-dark-skies-of-pa?redirect=false

Benefit from giving to LVAAS through your IRA

If you are 70 1/2 or older, you can make a charitable gift directly from your IRA to LVAAS without paying income tax on the withdrawal. State laws about Qualified Charitable Deductions (QCDs) and how QCDs are handled vary. If interested, please consult an adviser so you can help LVAAS today!
https://lvaas.org/page.php?page=using_rmd_to_support_lvaas



Cover image: The Flaming Star/Tadpoles (IC405,IC410 and IC417 Imager: Lynn Krizan

Images were taken over multi nights from Feb. 10 till March 3, 2022. Ha is 26 x 300 sec, SII is 20 x 300 sec & OIII is 25 x average 404 sec, so about 6.63 hrs. Not a lot of time. Ha & SII used a Astronomik FRMax 6nm filters and OIII use a Chroma 3nm F3 filter. Stars are from Ha & OIII. Lum was composed of HA+OIII+SII

Camera: QHY268M

Scope: Takahashi FSQ106ED @ F3.64

Filters used. Ha 2 hr. 10min., OIII 2 hr. 14 min., SII 2 hr 5 min., totaling 6 hr. 29 min.

Minutes from the LVAAS General Meeting – March 13th, 2022

The March 2022 LVAAS General Meeting was conducted electronically using an on-line service. Approximately 25 people were in attendance. Director Tom Duff opened the meeting at 3:05 p.m.

Our meeting's presentation was "The Big Bang and the Expansion of the Universe" with Dr. Felipe Maldonado. Felipe spoke about how we know the Universe began with the Big Bang, how we know the Universe is expanding, and what we used to think before those theories were developed. He gave a brief historical outline of cosmology and finished with what we understand today. Felipe works at the Da Vinci Science Center in Allentown, where he does outreach for children in the Lehigh Valley. He is Chilean and earned his Bachelor's degree in Astronomy at Universidad de Chile and his Ph.D. in Astrophysics at Florida State University. Felipe works in Cosmology.

Treasurer's Report - Blair Hogg

- Finances in good shape.
- Looking at financing requirements for 501c3.

Membership - Rich Hogg

- 2nd readings
    - Gabriel McCoy
- 1st readings
    - Aaron Fritz

General Comments:

- First astroimaging meeting in a couple years will be on March 26th.
- DaVinci Solar Day - Saturday May 14th.
- Getting closer to obtaining parts for meteor cams.
    - Parts had to be ordered from AliExpress.
    - Direct from China so taking a while due to the international shipping backlog.

Star Party Coordinator – Bill Dahlenburg

- Good response from people wanting to attend and volunteering to help out.
    - Was canceled due to inclement weather.

Next General Meeting:

- In April, Doug Arion will speak on "Threats to Astronomy from Ground and Space." The meeting will be held in person at South Mountain with the presentation being over Zoom.

The meeting was adjourned at approximately 4:42 p.m. and was recorded.

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Submitted by Michael Huber, Secretary

LVAAS General Meeting at *Grady Planetarium and via ZOOM*

Sunday, April 10, 7:00 p.m.

"Threats to Astronomy and What You Can Do"

presented by

Douglas Arion, PhD

**via ZOOM*

There are real threats to astronomy - both for amateurs and professionals, ranging from growing light pollution to satellite megaconstellations.

As one of the individuals involved in these issues through the American Astronomical Society and the International Astronomical Union, as well as through the ***Mountains of Stars*** public science education program, Douglas Arion has had the opportunity to address these threats, and will share with us key information on the depth of these challenges, ways to communicate about them to others, and mitigation efforts that are underway or can be initiated.

Douglas Arion, PhD is the founder and director of **Mountains of Stars**, a public science outreach and education program that engages the public with 'environmental awareness from a cosmic perspective.' More than 67000 members of the public have participated, and the program has trained more than 300 students and nature guides and educators in science communication. He is Professor Emeritus of Physics and Astronomy and Donald D. Hedberg Distinguished Professor Emeritus of Entrepreneurial Studies at Carthage College. Previously, he was assistant vice president and head of the Applied Physics and Engineering Division of Science Applications International Corporation. He, with Richard Fienberg, co-founded Galileoscope to provide high quality, low cost telescopes for worldwide promotion of science education and outreach as part of the International Year of Astronomy 2009 and International Year of Light 2015. More than 260,000 are now in use in over 110 countries. Arion is a Fellow of the American Physical Society, a member of the American Astronomical Society (AAS) and the International Astronomical Union, has received the Distinguished Service Award from Sigma Pi Sigma (the physics honorary society), the Volunteer Leadership Award from the Appalachian Mountain Club, and the Dark Sky Defender Award from the International Dark Sky Association. He serves on US and international commissions on dark skies preservation and the international SATCON2 panel addressing satellite megaconstellations. He has conducted research in many fields, including the solar atmosphere, radiation effects on electronics and space systems, and asteroids compositions. Arion is also a member of the Springfield Telescope Makers, who hold the Stellafane convention each summer.

* Prospective new members who wish to attend the meeting should email **membership@lvaas.org**.

The CMB-S4 Saturday Science Series

Attention High School Students! If you are interested in some of the most fascinating mysteries of our universe, here is a great opportunity for you!

What: Saturday Science Series (CMB-S4, a National Science Foundation and Department Of Energy supported project)
When: April 9, 16, 23 and 30 (all Saturdays), 11am EDT
Where: Online
Who: High School students (grades 9 - 12) who are interested in the mysteries of our universe
Cost: Free!

Here is a brief background and summary from the leader of the program, Felipe Maldonado:

I am frequently fascinated by kids' questions. And I especially like questions that adults don't ask. I've never heard an adult ask how the Sun shines, or why the night sky is dark, and yet these questions, it turns out, are among the most important questions in astronomy. Neither of them had a rigorous answer until the 20th century, either. Surely your first impulse if someone asks why the night sky is dark would be to say that it's because the Sun isn't around. But since every single star in the sky is about as bright as the Sun, then shouldn't they be bright enough to make the night sky bright? As it turns out, this problem is called Olbers' Paradox, and the solution of the paradox is that the Universe either has a finite age or a finite size, or both. The mere fact that the night sky is dark is evidence of something as profound as that, and I am always amazed by this fact. We could say that Olbers' Paradox was among the first rigorous tests of a new discipline of astronomy called cosmology, the study of the Universe. Cosmology is tasked with the study of the contents of the Universe, its history, origin, and eventual fate.

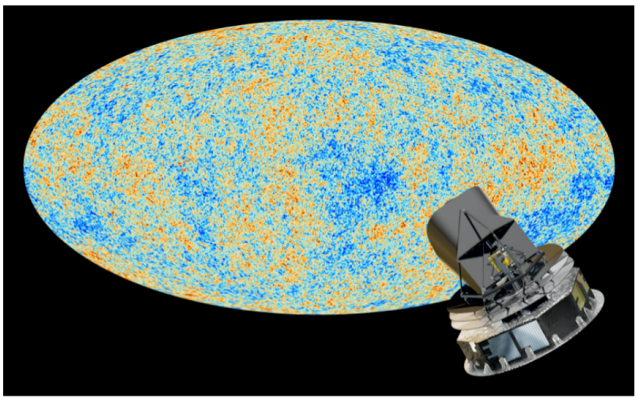


Figure 1: The cosmic microwave background with the Planck satellite in front. Credit: ESA and Planck Collaboration.

My curiosity about the early Universe, dark matter, dark energy and so on led me to become a cosmologist and join the CMB-S4 Collaboration. The Collaboration is a network of professional cosmologists who study the cosmic microwave background (CMB), the earliest light of the Universe. It comes to us from a time before stars, when the Universe was merely ~300 000 years old. The scientists of the Collaboration are designing and working on the building and operation of a new observatory that will observe the CMB from Chile and Antartica. I lead an outreach initiative called the CMB-S4 Saturday Science Series, a program of 8 talks over 4 sessions given by cosmologists. It is fully virtual, free of charge, and those who take part in all four sessions will receive a certificate of participation that we hope will help in academic endeavors. It is intended for high school students. We will cover topics like the Big Bang, inflation, dark matter, dark energy, unsolved mysteries in cosmology, and more. I hope you can join us, and I would be grateful if you could share this article with people you think might be interested.
Felipe Maldonado, Ph.D.

Register here: **https://forms.gle/5a6WjqXP5VmsDRK68**
Series Agenda: **https://cmb-s4.org/outreach/upcoming-events/**

We hope to see some of our young, curious minds there!

Article submitted by: Blaine Easterwood

LVAAS Meteor All Sky Camera Project!

LVAAS is looking for volunteer members to participate in a first ever, winter project to assemble Meteor All Sky Cameras for use at our South Mountain & Pulpit Rock Observatory Sites.

The project is intended to involve volunteers of all experience levels to build Meteor All Sky Cameras based on the Raspberry PI platform that will be installed at LVAAS observatory sites.

LVAAS is picking up the material costs for the units and will be facilitating the build via remote Zoom sessions and in-person events for field testing and deployment.

We are encouraging members with little to no experience in these types of systems to actively participate with demonstrations, coaching and troubleshooting assistance from more experienced members. Using Zoom for most of the activities will minimize travel and encourage active participation or simply observing the process. Volunteers are welcome to purchase their own parts and participate in that manner if they wanted their own for home. The unit cost expected to be approximately $200.

Activities include:

- Setup & Configuration of Raspberry Pi with suggested applications
- Networking of Raspberry Pi for downloading images & remote access
- 3d Part / Enclosure design & printing (e.g. via Fusion 360)

  Reference: Make Magazine Article:

  https://makezine.com/projects/raspberry-pi-meteor-camera/

Contact us if you would like to participate or have any questions!

Blaine Easterwood-Education Director - **blaine@ieee.org**

Frank Lyter-Pulpit Rock Observatory Director – **flyter@ptd.net**

Lehigh Valley Amateur Astronomical Society (LVAAS)
MEGAMEET
Pulpit Rock Astronomical Park
May 27-29, 2022
(We may re-schedule depending on the weather conditions or Covid circumstances.
Please check the Website lvaas.org for updates.)

EVENT INFORMATION

MegaMeet is LVAAS's annual bare bones 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 Non LVAAS members will be required to register for this event.
You can register for the event by emailing director@lvaas.org with your name, number of people in your party and indicate if you plan to camp or just observe.

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 Kawecki, an industrialist from Berks County, who built the first observatory.

DIRECTIONS AND SITE ACCESS

Directions to the site can be viewed at LVAAS. For non LVAAS members or members without keys **the locked gate will be attended on Friday May 27 from 4:00 PM to 7:00 PM and Saturday May 28 from 4:00 PM to 7:00 PM**. 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 cook 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 our web site at LVAAS for information on the site.

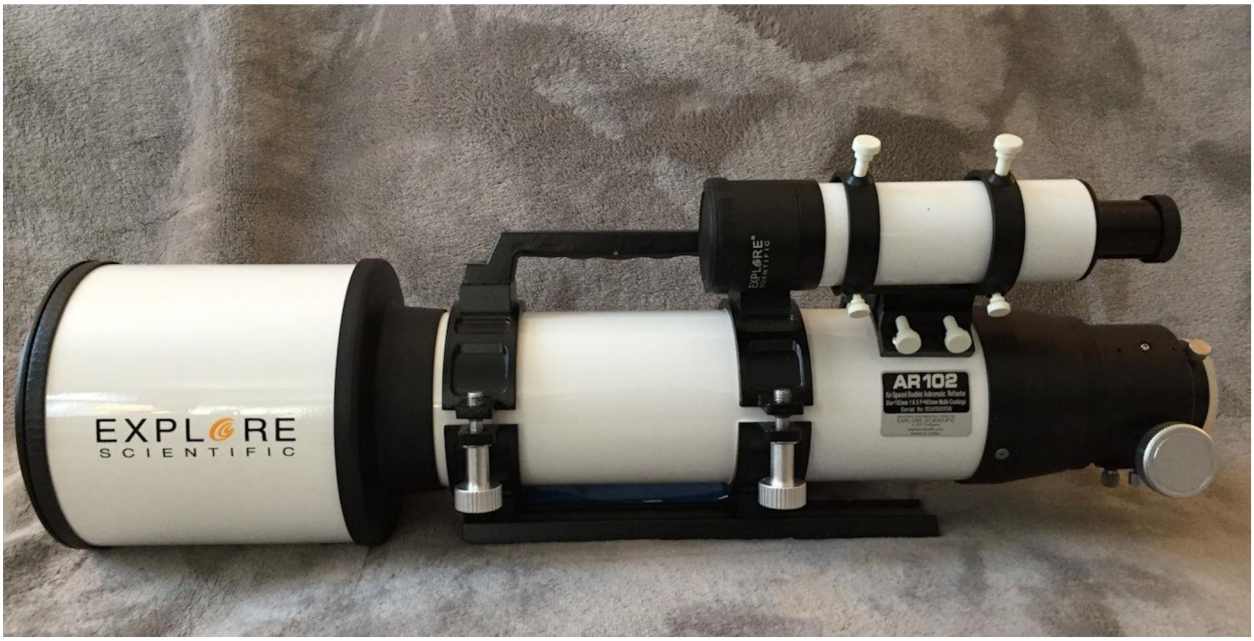
QUESTIONS

Questions can be directed to our Director, Tom Duff at director@lvaas.org

Pulpit Rock Astronomical Park
Lat: 40° 35′ 78″ N
Lon: 75° 55′ 57″ W
Alt: 1,584 feet
Mag Dev: 11° 57′ W

For Sale: $300

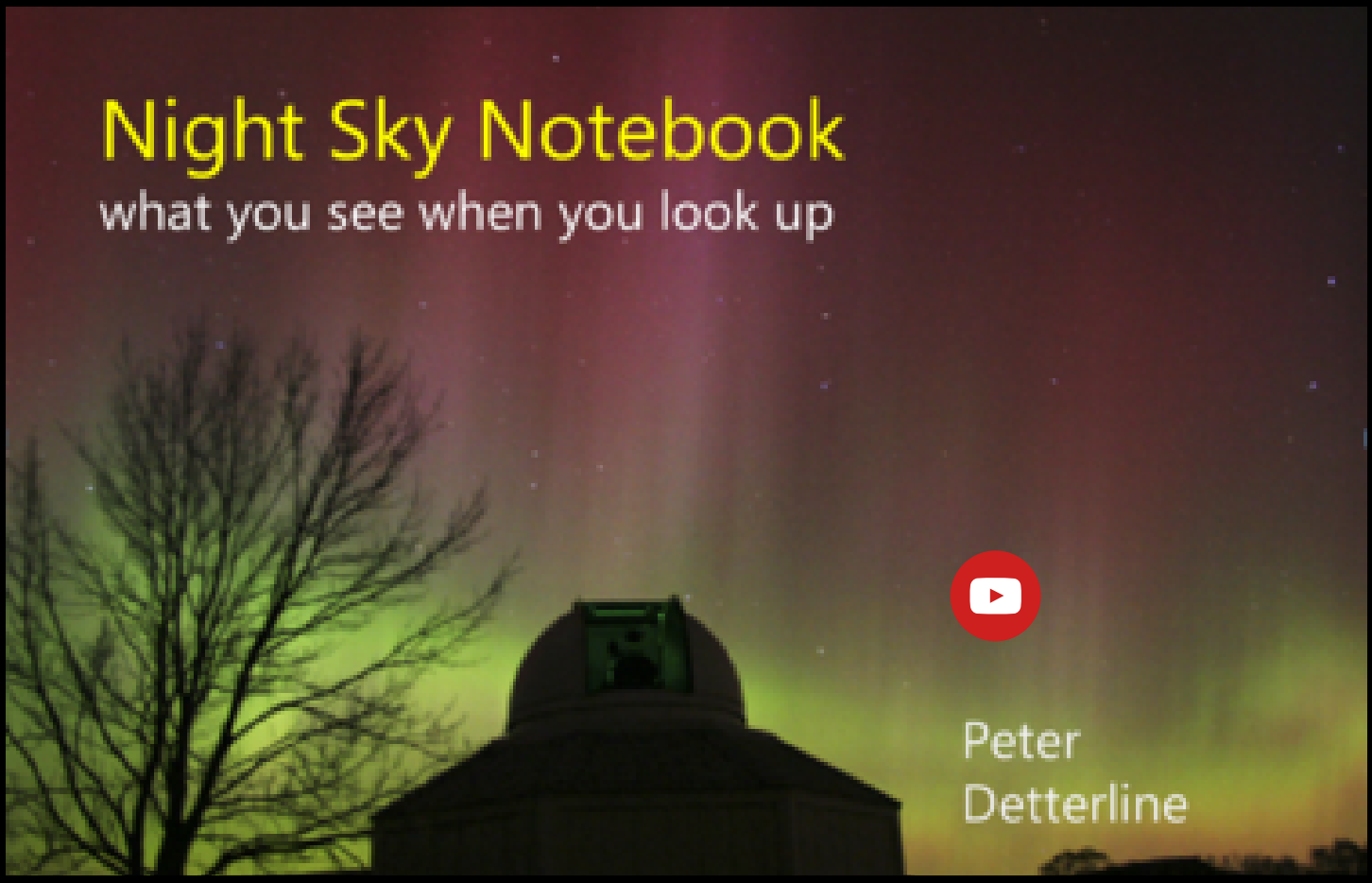
Explore Scientific - AR102 f/6.5
Air-Spaced Doublet AR Series
Achromat Refractor Telescope



Virtually new in box. Includes dual speed 2” focuser, cradle rings with handle, 8x50mm finder, and all packing materials. This same model scope is currently selling for $600 if you can find it. The reason I am offering so cheap is that I am keeping the 2” diagonal. I have a 1.25” diagonal and 2” adapter that I will sell with the scope for an additional $25 if needed.

Contact: Bob LaFleur at BLF999@Gmail.com

Night Sky Notebook
for
April
by
Peter Detterline



Get cooking...
In LVAAS style!

Start by shopping for your ingredients using our eco-friendly reusable shopping bag. Made of 100% recycled materials, 12” x 13”. Spot clean with damp cloth. Only $17.99

And when you start cooking, stay neat and clean with our own LVAAS apron. Choose our current logo (left) or our retro 1959 logo (below). 100% cotton twill, 31” long x 29” wide, two large pockets. Machine wash cold, tumble dry low. Only $20.99

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https://www.cafepress.com/lvaasredshiftonlinestore

From the LVAAS Archives: All Hail the ATMers (Amateur Telescope Makers)

by Sandy Mesics

LVAAS has a rich history of members who were accomplished telescope makers. One could trace the origins of amateur telescope making in the Lehigh Valley to Dr. D. George Knecht, an Allentown dentist and founding member of the Lehigh Valley Astronomical Society. Knecht picked up two secondhand astronomy books while in dental school and started to build telescopes in the early 1900s. Through the years, he made about a dozen telescopes, and gave about 10 of them away. Beginning in 1926 or 1927, Knecht was a regular attendee of the Stellafane Amateur Telescope Makers annual convention. There he made friends with Dr. Russell W. Porter, architect of the 200 in. Hale Telescope at Mount Palomar, and Albert Ingalls, an editor for Scientific American, who would write a regular column on telescope making, and publish three classic volumes on amateur telescope making. A couple of Knecht's telescopes were featured in Ingall's column.

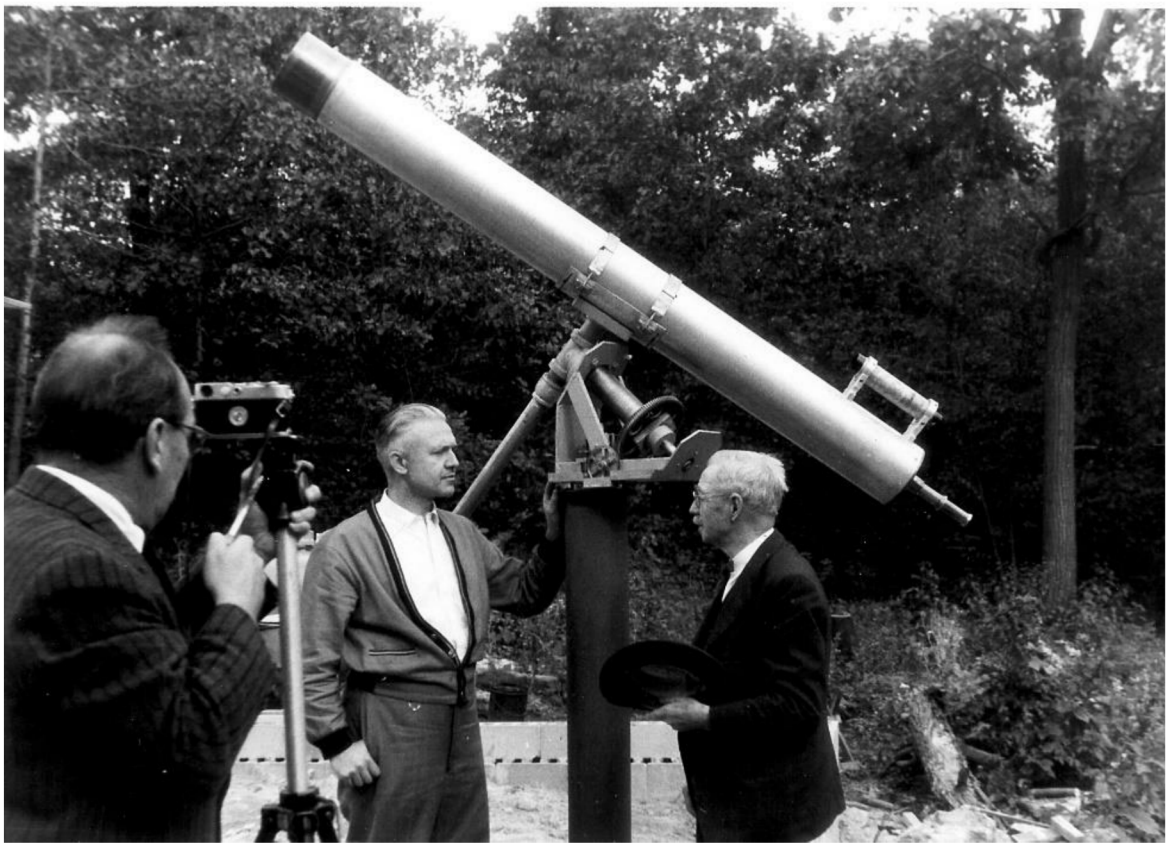


Figure 1. Ralph Schlegel (l) and Dr. Knecht (r) with Knecht's 6 inch refractor that was donated to LVAAS.

In 1927, a young man of 16 years old by the name of Ralph Schlegel went to Dr. Knecht to have a tooth filled. While he was working on Ralph's tooth, Dr. Knecht talked about telescope making, and when Ralph left the office, he decided he would also build a telescope. This serendipitous meeting was to shape organized amateur astronomy in the Lehigh Valley. Schlegel would go on to build or assist in building each of LVAAS's current observatories. He collaborated with other talented LVAAS telescope makers such as Bill McHugh and Pete Brooks.

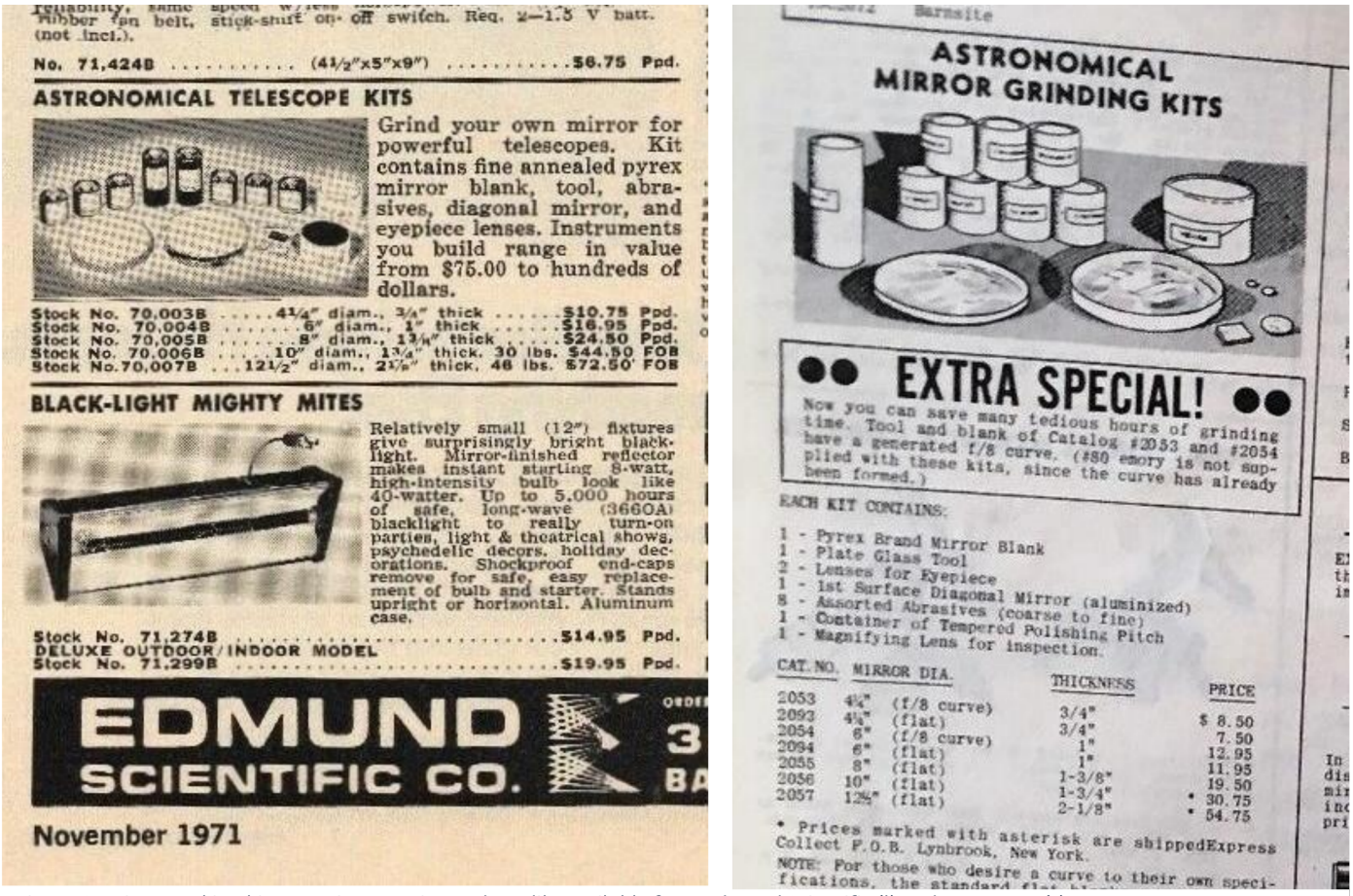


Figure 2. Mirror making kits were inexpensive and readily available from Edmund Scientific (l) and A. Jaegers (r).

In the 1950s and 1960s, amateur astronomers who wanted an affordable telescope often built their own, starting with the optics. The easiest type of telescope for an amateur to make is a Newtonian reflector. This requires figuring only one surface to a high tolerance. Kits were available through dealers such as A. Jaegers and Edmund Scientific.

From the club's very beginning, telescope making was an important part of the life of the organization. The first issue of The Satellite, the predecessor of The Observer had a section devoted to telescope making.

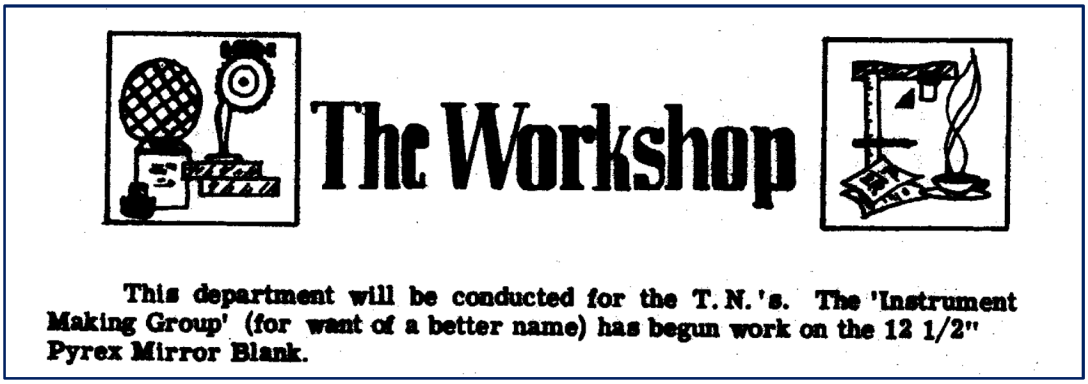


Figure 3. The LVAAS Satellite Vol. 1 no. 1

In 1959 & 1960, local ATM'er Joe Frisch held a telescope-making class for the young LVAAS members in the partially completed South Mountain headquarters. The group tackled 4-1/4" mirrors.

Joe Frisch completed the mirrors that were not completed by the junior members: some were offered for sale, while others were used in rental scopes. Frisch also made exceptional optics for many LVAAS members over the years.

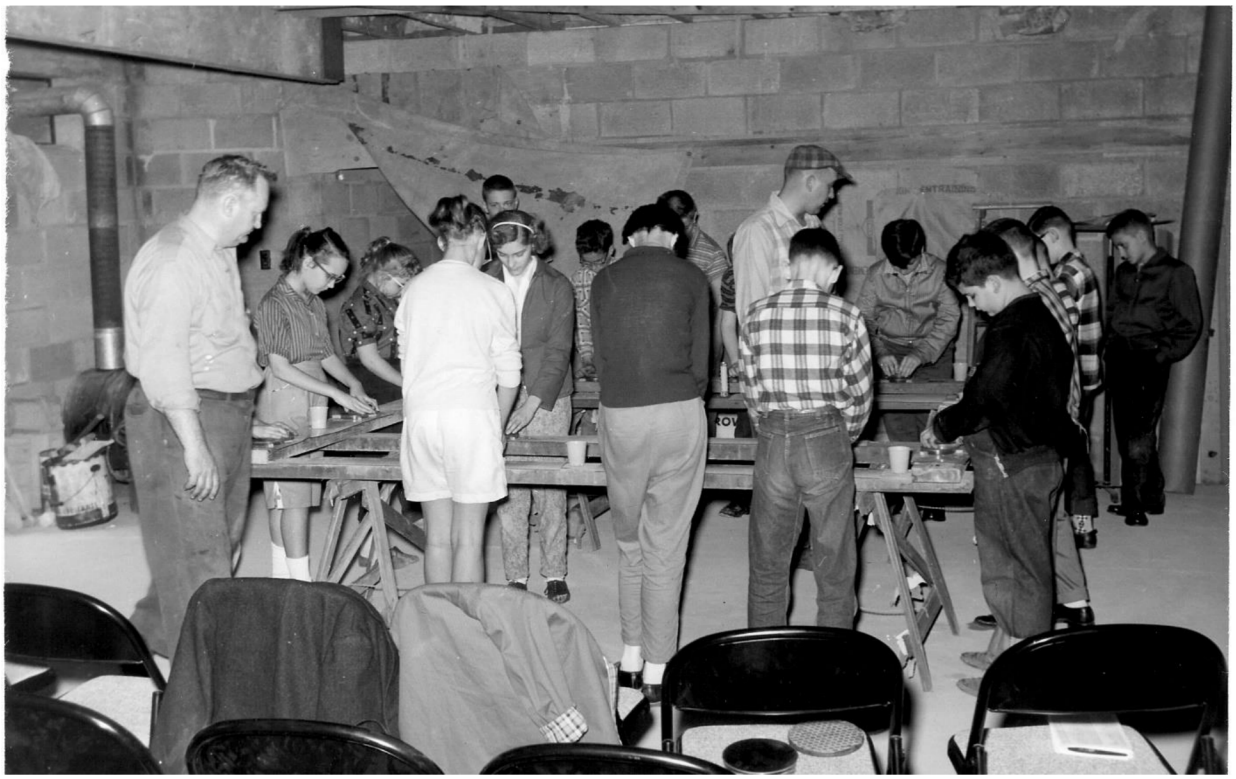


Figure 4. Joe Frisch (left) leads young ATMers in the still-unfinished South Mountain headquarters.

Figure 5. Joe Frisch and some of his telescopes.

Beginning in April 1971, a “small but determined” group of LVAAS members met once a month for about a year to grind, polish, and figure a 6-inch telescope mirror. The group worked under the guidance of the late Glen Hacker, a talented amateur astronomer, imager, and instrument builder. Some notable LVAAS members participated in the project: Joe Schmidt, Ken Mohr, Gary Garabrandt, Ray Klahr, and Roland Lovejoy. The mirror was finished on February 27, 1972. Apparently, the finished product was something to be proud of -- a focal ratio of 7.1 and testing with Foucault and Dull null

testing revealed a smooth surface within 1/10 wave of the ideal paraboloid. The mirror was auctioned off at the April 1972 general meeting. It sold to Mrs. Barbara Jeanne Love for $35. Hacker continued to guide this group through 1976.

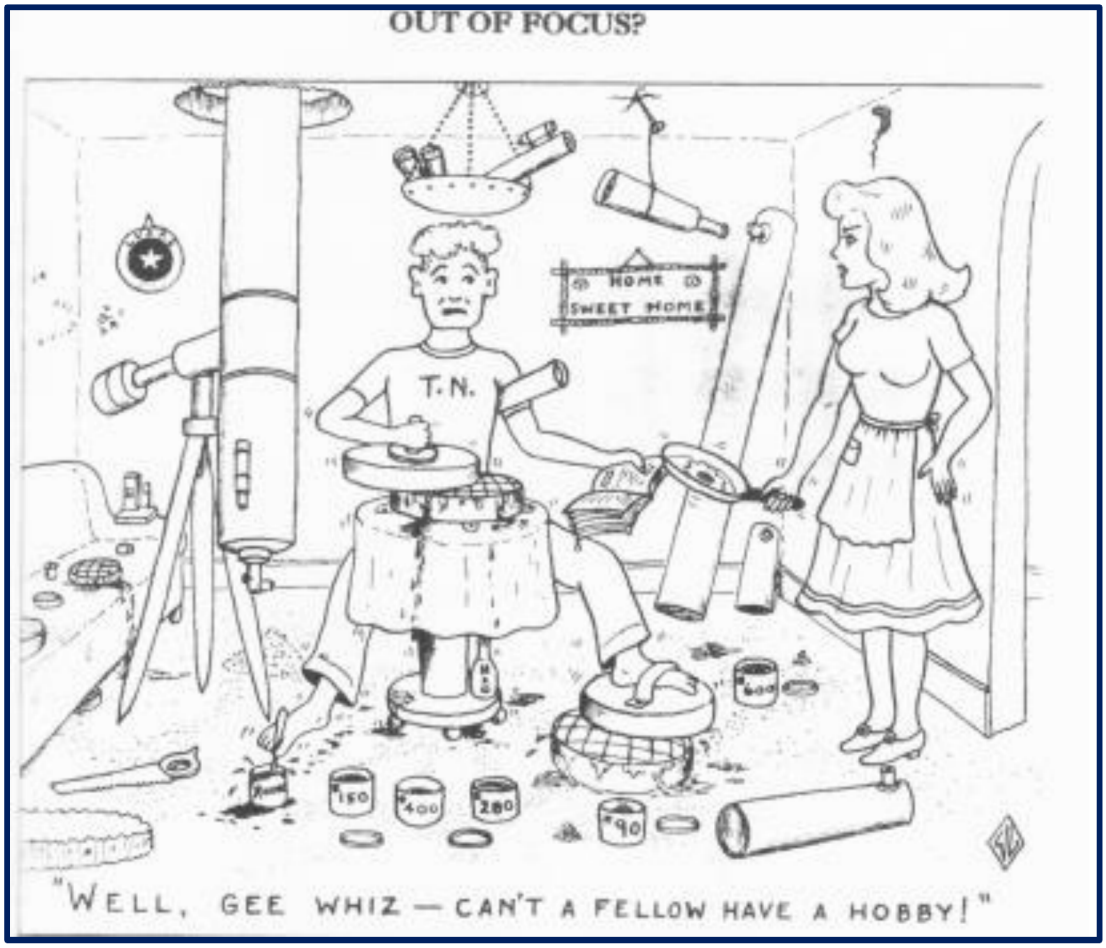


Figure 6. The Satellite, No. 4. April 1959.

Between 1977 and 1981, there is no record of an active telescope making group at LVAAS. Keep in mind that at that time, Celestron had released the C-8, and Meade and Orion Telescopes had entered the market as well. A Jaegers had gone out of business, and Edmund Scientific split into Scientifics and Edmund Optics, and only the outlet store sold ATM gear in the 1980s. Coulter Optical started making low-cost Dobsonian telescopes, for less expense than one could construct a similar instrument. It appeared that the heyday for ATMs had passed.

Nevertheless, ATMers are a persistent lot: In 1992, LVAAS member Rick Hunter held optical classes. In 1993, this group began making 8-inch mirrors. This group continued under Rick's guidance until 2000, when Bob Mohr became the leader. Bob led this group for another 17-18 years, assisted for the last few years by John LaShell.

Who knows what lies ahead for LVAAS telescope makers? Is it a lost art? Will there be a revival, or will it morph into amateur astronomers making other instruments that we can now only imagine? Time will tell!

References

The LVAAS Satellite, various issues.
The Observer, various issues.

StarWatch

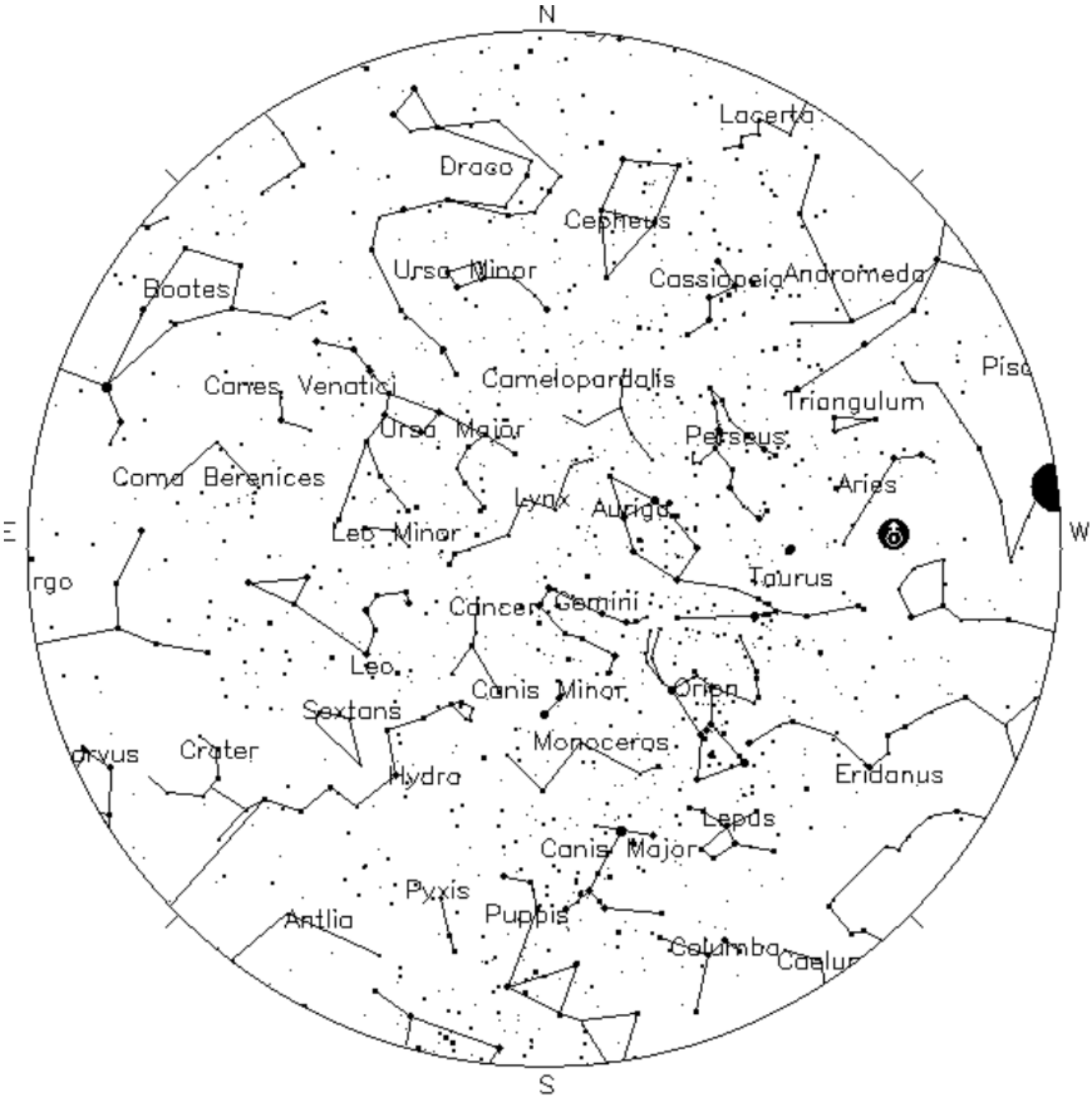
Strange Universe

The universe can be a sobering place. Our part during its 13.8 billion-year history has been brief at best, and only in the past century have we begun to understand its complexities and comprehend how strange a place it truly is. During the last 100 years, we have been grappling with how we can unite the four forces of nature into a single elegant mathematical equation. In the quantum (small) world, the forces that govern the atom, the strong and weak nuclear forces and the electromagnetic force, have been unified into a single mathematical concept. The holdout is gravity. • In the world of the small, the strong nuclear force governs the core of an atom. Almost everyone knows from playing with magnets that like charges repel, but when protons containing a repelling positive charge get very close to one another, the strong nuclear force trumps the force of repulsion, attracting the protons to each other. Why don't they simply careen together and become inseparable? • It is the neutrons in the nucleus of the atom that keep the protons at the correct distances so that cannot happen. Likewise, neutrons and protons contain even smaller entities, two different types of quarks which have fractional charges: a proton with a positive charge of one has two up quarks (+2/3 charge per up quark) and one down quark (-1/3 charge). In concert they equal a charge of positive one. The neutron with no charge, has two down quarks (-1/3 charge per down quark) and one up quark (+2/3 charge) that equals a charge of zero. What is so fascinating about quarks is that the farther away they move from each other, the stronger the attractive force between them becomes, making them virtually inseparable. • The weak nuclear force governs how radioactive elements decay or break apart into less complex atomic constituents while the electromagnetic force governs how elements interact (bond) with each other, in other words, creating the chemistry of this universe. • So what governs the interactions of massive objects in the cosmos? The answer is gravity, but it is not so much of an attractive force as it is a warping of space (length, width, and height) and time. High mass objects distort the fabric of space much like a heavy object would deform an elastic sheet. Objects in space maintain orbits at specific distances along this curvature based upon their velocities. The beat of time also varies, drumming slower near more massive bodies. Time also moves at a slower pace the faster objects travel. • Gravity can also be simulated by acceleration as witnessed by anyone who has ever ridden in an elevator in a skyscraper. When the elevator accelerates up or down, you feel your weight increase (up) or decrease (down) as the illusion of more or less gravity takes place during the acceleration process. Einstein put gravity in its place with his theories of special and general relativity in 1905 and 1915. • And here is the rub. The mathematics of the quantum universe has yet to be unified with the mathematics of general relativity to form a comprehensive theory of everything. Quantum physics and general relativity are like stop and go, oil and vinegar. They don't mix; at least no one has found the correct caldron (formula) where they could combine to form a wonderful stew that explains everything! • How can astronomers describe the origin of the universe that began with a volume much smaller than an atom, fully a part of the quantum world, but with all of the "ingredients" that would eventually evolve into the universe that we observe today, filled with hundreds of billions of massive galaxies? We will never know the answer to that question unless we can unify the big and the small. • It is a strange universe indeed, and one that we still do not fully understand. Ad Astra!

Gary A. Becker – beckerg@moravian.edu or garyabecker@gmail.com
Moravian University Astronomy - astronomy.org; also facebook.com/StarWatchAstro/

Forward this ***StarWatch*** to a friend by clicking ***Join***.

Sky Above 40°33'58"N 75°26'5"W Saturday, April 4, 2022 00:00 UTC



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

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

April 2022

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					New Moon 01	02
03	04	05	06	07	08	First Quarter Moon 09 Star Party
General Meeting - 7:00 PM 10	11	Scout Group at South Mountain 12	13	14	Scout Camping at Pulpit Rock 15	Scout Camping at Pulpit Rock 16 Full Moon
Scout Camping at Pulpit Rock 17 Easter Deadline for submissions to the Observer	18	19	20	21	22	Last Quarter Moon 23 Astro Imaging at SM 7pm
LVAAS Board of Governors Meeting 24	25	26	27	28	29	New Moon 30

May 2022

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
General Meeting - 7:00 PM 01	02	03	04	05	06	Star Party 07
Mothers Day 08	First Quarter Moon 09	10	11	12	Scout Camping at Pulpit Rock 13	Scout Camping at Pulpit Rock 14
Scout Camping at Pulpit Rock 15 Deadline for submissions to the Observer	Full Moon 16	17	18	19	20	Astro Imaging at SM 7pm 21
Last Quarter Moon 22 LVAAS Board of Governors Meeting	23	24	25	26	MegaMeet at PR 27	MegaMeet at PR 28
MegaMeet at PR 29	Memorial Day 30 New Moon	31				

2022 LVAAS EVENT CALENDAR

Contributed by Bill Dahlenburg

2022 LVAAS Event Calendar

	Sundays				Saturday 7:00 PM	Saturday	Mondays	Multi-Day Weekends	Moon Phase			
	General Meeting time	General Meeting Date/location	Board meeting	Observer submission deadline	Astro Imaging	Star Parties	Scouts at S. Mountain	Scouts at Pulpit R.	New	First	Full	Last
January	3:00 PM	9 Muhlenberg/Zoom	30	23	no mtg	no mtg		no camping	2	9	17	25
February	3:00 PM	6 * Muhlenberg/Zoom	27	20	no mtg	no mtg		no camping	1	8	16	23
March	3:00 PM	13 Muhlenberg/Zoom	27	20	26	12			2	10	18	25
April	7:00 PM	10	24	17	23	9			1 30	9	16	23
May	7:00 PM	1 *	22 *	15	21	7			30	9	16	22
June	7:00 PM	12	26	19	25	4			29	7	14	21
July	5:00 PM	9/10 Picnic – S.M.	31	24	23	2			28	7	13	20
August	7:00 PM	13/14 Pulpit	28	21	20	6			27	5	12	19
September	7:00 PM	11	25	18	17	3			25	3	10	17
October	7:00 PM	9	30	23	15	1			25	3	9	17
November	7:00 PM	13	27	20	19	5			23	1 30	8	16
December	**	10/11	18 *	11	17	no mtg		no camping	23	30	8	16

* early due to conflicts

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

NEAF	April 9-10
Cherry Springs S.P.	June 2-5
Stellafane	July 28-31
Black Forest S.P.	
MegaMeet	May 27-29

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.

The Observer is the official monthly publication of the Lehigh Valley Amateur Astronomical Society, Inc. (LVAAS), 620-B East Rock Road, Allentown, PA, 18103, and as of June 2016 is available for public viewing. Society members who would like to submit articles or images for publication should kindly do so by emailing *The Observer* editor, France Kopy, at **editorlvaas@gmail.com.** 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 and suggestions are always welcome.

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.

To become a member of LVAAS, please submit an application form, which can found in this publication or downloaded at **https://lvaas.org/filemgmt_data/files/LVAAS_New_Member_Form.pdf**

Existing members please update your LVAAS profile information by emailing the membership director at **membership@lvaas.org** .