

The Observer

The Official Publication of the Lehigh Valley Amateur Astronomical
Society

<https://lvaas.org/>

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

December 2021

Volume 61 Issue 12





ad astra *****

The 2022 Budget will be voted on by the membership at the December 12 General Meeting. Rich Hogg will post the budget on our website so it can be reviewed before the meeting.

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. Contact Blaine Easterwood-Education Director or Frank Lyter-Pulpit Rock Observatory Director if you are interested.

At the November 28th, 2021, Board of Governors meeting, we approved the following activities to occur in 2022:

✓ Astro-Imaging Meetings at South Mountain

Mar 26	Jun 25	Sep 17	Dec 17
Apr 23	July 23	Oct 15	All meetings will start at 7pm
May 21	Aug 20	Nov 19	

- ✓ Mega Meet – May 27 to 29 - MegaMeet is LVAAS's bare bones star party, without vendors, speakers, or registration fees. Members in good standing of regional amateur astronomy clubs are invited to attend.

Pulpit Rock Maintenance – The following maintenance activities have begun at Pulpit Rock so some observatories may be unavailable until they can be completed. These include:

- ✓ Replacement of the Kaweckie flooring.
- ✓ Rebuilding of the right ascension motor on the Tinsley telescope.

The position of Star Party Coordinator still remains open. If anyone is interested in this position, please contact me at director@lvaas.org

Ad Astra!

Thomas Duff

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.



Meteor in Ursa Major by Frank Lyter

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

Minutes from the LVAAS General Meeting – November 14, 2021

The November 2021 LVAAS General Meeting General Meeting was conducted electronically using an on-line service.

Approximately 44 people were in attendance.

Director Tom Duff opened the meeting at 7:00 PM.

Tonight's General Meeting's presentation was The Search for Life in the Outer Solar System by Jonathan I. Lunine. Jonathan Lunine is the David C Duncan Professor in the Physical Sciences and Chair of the Department of Astronomy at Cornell University. He is interested in how planets form and evolve, what processes maintain and establish habitability, and what kinds of exotic environments (methane lakes, etc.) might host a kind of chemistry sophisticated enough to be called "life". He pursues these interests through theoretical modeling and participation in spacecraft missions. He is co-investigator on the Juno mission now in orbit at Jupiter, using data from several instruments on the spacecraft, and on the MISE instrument for the Europa Clipper mission. He is on the science team for the James Webb Space Telescope, focusing on characterization of extra-solar planets and Kuiper Belt objects. Lunine has contributed to concept studies for a wide range of planetary and exo-planetary missions. Lunine is a member of the National Academy of Sciences and has participated in or chaired a number of advisory and strategic planning committees for the Academy and for NASA.

Treasurers Report: Gwyn Fowler

- There was no Treasurers Report presented at the General Meeting, as Gwyn was unable to attend.

Membership: Rich Hogg

- 2nd readings
 - None
- 1st readings
 - Brielle Eisenberg
 - Marie Oliver
 - Lee Simpson

General Comments: Tom Duff

- The fiscal year has been changed to now be from January to December.
- The Board of Governors has voted on the 2022 budget. It will now go to vote to approve by the membership at the next General Meeting.
- The BOG has decided to re-open LVAAS to the public in March of 2022. The decision is tentative and conditions will be monitored and evaluated between now and March 2022 prior to any official announcement.
- Astroimaging will resume in March of next year.

- NEAF is tentatively scheduled for April of next year.

Pulpit Rock: Ron Kunkel & Frank Lyter

- Activities will continue at Pulpit Rock until winter weather prohibits.
- If anyone has questions about Pulpit Rock, or is looking to get some training on the scopes at Pulpit Rock, or wants to volunteer for some of the Pulpit Rock work activities, or just see if anyone is interested in going up for a night at Pulpit Rock, then they should use the Pulpit Rock Buzz.
- Anyone interested in taking a tour of Pulpit Rock should reach out to Ron to schedule something.
- The Kawecki Observatory is closed until repairs to the floor can be completed. This is the dome with the 8" refractor, at the uphill (south-east) end of the field, closest to the Appalachian Trail and the lookout. Please do not access this observatory until further notice.
- A dew shield was installed on the main tube of the 12" Meade telescope in the Spacek roll-off observatory.
- Remote sensors for the sump pumps have been added.
- There is now internet access at Pulpit Rock.
- Key locks, with the exception of the Pulpit Rock gate are being changed to passcode locks.

South Mountain: Bill Dahlenburg

- If anyone has questions about South Mountain, or is looking to get some training on the scopes at South Mountain, or wants to volunteer for some of the South Mountain work activities, myself, and several others are usually on site Saturday mornings, so feel free to drop in.

Next General Meeting:

- The December General Meeting is scheduled for Sunday, December 12th at 7:00 PM. The meeting will be conducted electronically using an on-line service. Larry McHenry will be speaking on Comet Tails.
- The January General Meeting is scheduled for Sunday, January 9th. Paul Halpern will be talking about his book, "Flashes of Creation."
- As of now, the January, February, and March General Meetings will be held in person at Muhlenberg, conditional on their rules permitting it at the time. Time of meetings to be determined.

The November General Meeting was recorded.

The meeting was adjourned at approximately 8:45 PM.

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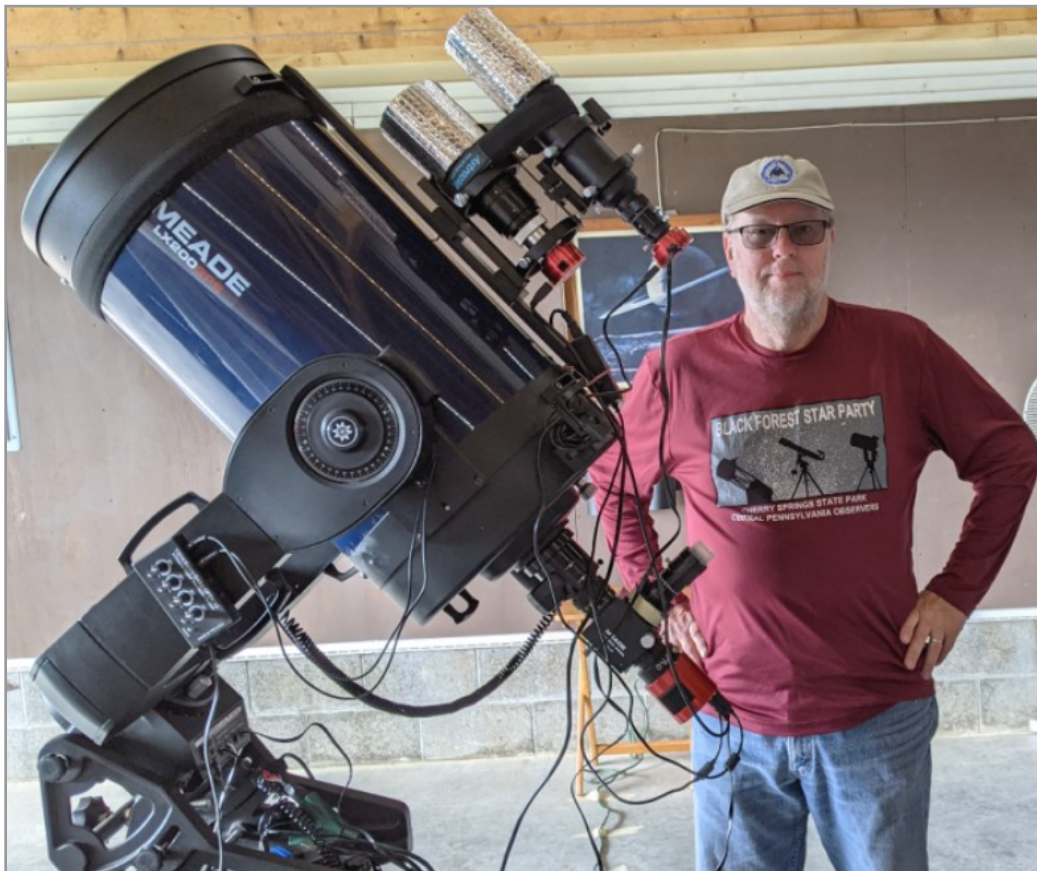
Submitted by Dennis Decker, Secretary

LVAAS General Meeting: Online only
Sunday, December 12, 7:00 p.m.

**"Comet Tales: An Introduction to the
Mythology and Science of Comets, along
with How to Observe Them"**

presented by

Larry McHenry



Larry McHenry has been active in amateur astronomy for over 40 years, and is a member of the Kiski Astronomers, and the Oil Region Astronomical Society (ORAS) in Western Pennsylvania. You can learn more about Larry's astronomical interests online at his webportal: <http://www.stellar-journeys.org/>

LVAAS Members will receive an email with meeting invitation/link.

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

Via Sandy Mesics: Upcoming LVAAS General Meeting Speakers

Please consider volunteering as a speaker at one of our upcoming general meetings! Here's our lineup:

This month, **Larry McHenry** will be speaking on "**Comet Tails.**"

In January, **Paul Halpern** will speak about his book, "**Flashes of Creation.**"

In February, **James Chen** will be speaking; topic TBA

In March, **Felipe Maldonado** from DaVinci Center will speak on the **Big Bang**

In April, **Doug Arion** will speak on "**Threats to Astronomy from Ground and Space.**"

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:

<https://www.change.org/p/senator-carolyn-comitta-improve-and-protect-dark-skies-of-pa?redirect=false>

Via Earl Pursell: RASC Observer's Handbook

The 2022 RASC Observer's Handbook is available from the Astronomical League for \$24. Order now- supplies are limited: https://store.astroleague.org/index.php?main_page=index&cPath=12

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 Earl Pursell, UACNJ Liason: Winter Remote Programs

During the off-season (November through March) UACNJ is now presenting an online astronomy-related presentation that begins at 8 p.m. You can tune in by visiting us at our [YouTube channel](#), or by clicking the name of the program. You can also subscribe to our YouTube channel to get notifications when our presentations go live. The link to the online program page is: <http://www.uacnj.org/onlineprograms.php>

UACNJ currently has the first Saturday of each month scheduled for **What's Up in This Month's Night Sky**.

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: Lunar Eclipse, courtesy of Gary A. Becker

"My goal was to create an image that was realistic with respect to what I was observing through my telescope and binoculars, but only better with respect to color values. Here's what I did: There were two images used in this eclipse portrait. The lunar eclipse was taken with a Canon 80D, attached at prime focus to a 5-inch, F/7, (910 mm focal length) Stellarvue apochromatic refractor. The effective focal length using the half frame 80D was 1456 mm or about 30 power. The exposure was set at ASA 800, 0.4 second, daylight color balance. The eclipsed area was then brightened but not the region surrounding the umbra/penumbra boundary. Color saturation values were also increased across the entire lunar disk. The image was then cut out and placed over a 5 second image of the same eclipse taken less than a minute earlier to reveal the stars surrounding the moon. The lunar image was enlarged by 40 pixels (1.9%) to completely cover the brighter moon and the flare from the uneclipsed portion of the 5 second exposure was removed. Each star was then enhanced to increase its visibility. The entire process took about 7 hours using Paint Shop Pro." (more in this issue's *StarWatch* ~ editor)

*Is your tree looking a little sad?
Show your LVAAS spirit
with these exclusive ornaments!*

Visit the LVAAS online store

<https://www.cafepress.com/lvaasredshiftonlinestore>



FOR SALE

3.5 " classic Questar telescope



It is a catadioptric apochromatic variable focal length telescope. It comes with two eyepieces (25 mm EFL and 10 mm EFL), a solar filter, legs for forming the tripod, power cord, and the case. The telescope and mirror are in nice shape and the clock drive runs. The number on the base reads 0-9953. I think it is at least 25+ years old.

\$1750 (price lowered)

If interested or you want to see more photos, contact David Raker at draker@cedarcrest.edu
Makes for a great **Christmas** present!

FOR SALE

ZWO OAG and non-rotating helical focuser



The OAG is NOT for the larger format cameras like the 6200 nor 2600. Both come in original packaging and the OAG also comes with some spacers.

\$120

If interested or you want to see more photos, contact Michael Huber at

m.huber614@gmail.com



Night Sky Notebook *for*

DECEMBER

by **Peter Detterline**

Night Sky Notebook

what you see when you look up



Peter
Detterline

by **Gary A. Becker**

beckerg@moravian.edu garyabecker@gmail.com

astronomy.org facebook.com/StarWatchAstro/

©Gary A. Becker for StarWatch



Playing in the Shadows

A fast-moving cold front sweeping across the Midwest and into Pennsylvania threatened to put the kibosh on Friday morning's deep partial lunar eclipse. The National Weather Service was forecasting rapid clearing after the front's passage, but when I exited Collier at 9:45 p.m. after teaching my Thursday astronomy class, it was still raining, a real downer because the start of the eclipse was less than four hours away. However, by 11 p.m. the rain had ended. Midnight saw the cloud deck thinning, moonlight flashing between the scudding altocumulus. By the start of the eclipse at 1:04 a.m. the sky had become perfectly clear, the air dry and crisp with a light breeze to keep the dew and frost away from my equipment. It was perfect for this lunar eclipse.

Watching the shadows of the Earth play across the face of the moon represents one of the most colorful sky spectacles that nature can produce. At the start, my backyard was awash in bright moonlight, veiling the stars, allowing the green of my lawn to be distinctly visible, and my telescope to be operated without the use of a headlamp. Then gradually, imperceptibly at first, the luminescence began to fade as the moon settled into Earth's main shadow, the rounded boundary of the umbra marching across Luna's surface, swallowing craters in its path, unstoppable, as the sky darkened and the stars became visible, a curtain lifted against the backdrop of the heavens. The blood moon gradually appeared against the velvety backdrop of the winter sky, a beautiful sight that I had not seen in nearly three years.

There are two total lunar eclipses that will take place during the next 12 months, the first on May 16, 2022 and not quite six months later on November 8. If you missed the November 19 eclipse, plan for some quiet time next year to watch the reddened moon playing hide and seek in the shadows of the Earth. You'll be making some wonderful memories. More photos can be found [here](#). Ad Astra!



"in the wee small hours of the morning" ~ Lunar Eclipse ~ photographed by Gary A. Becker

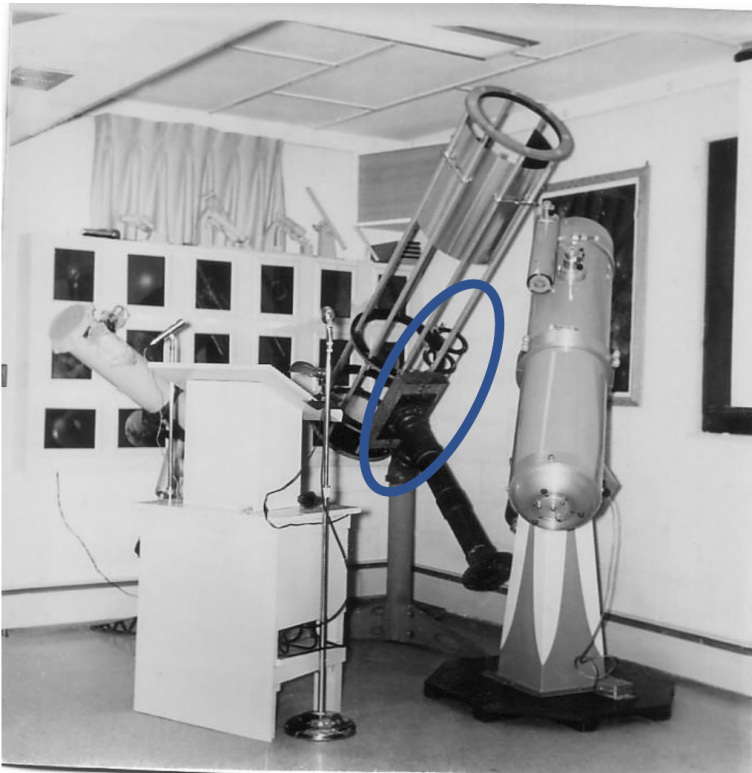
From the LVAAS Archives: Resurrecting a Prototype “ShenkleScope”

by Sandy Mesics

A couple of years ago, a former LVAAS member gave me some old astronomy-related items that were fabricated by early LVAAS members. Among these items was an optical tube assembly that was built by the late Paul Shenkle, who was a professional optician and coincidentally, LVAAS Director in 1969.

This was an open-tube design that Paul tinkered with and perfected during the 1960s. It looked familiar to me, so I dove into the LVAAS archives, and found a couple of pictures. Paul had displayed a larger version of this scope at the 1965 Mideast Regional Convention held at LVAAS. As I recall, one of the features of this scope was that the secondary mirror supports were fashioned from piano wire.

Looking closer at the photo, I realized that the scope I was given was likely the “finder” scope that you can barely see attached to the larger Newtonian.



1. Two views of Paul Shenkle's Scope in 1965. The scope I refurbished is circled in the left photo.

The tube assembly had a secondary mirror, but no primary. I realized I had a well-worn primary mirror that would work. It was a 4.5-inch mirror with a focal length of 17 inches. A quick Ronchi test revealed that it had a pretty good, well-corrected figure. I washed it, and though the coating is a bit rough, I thought it would be serviceable.



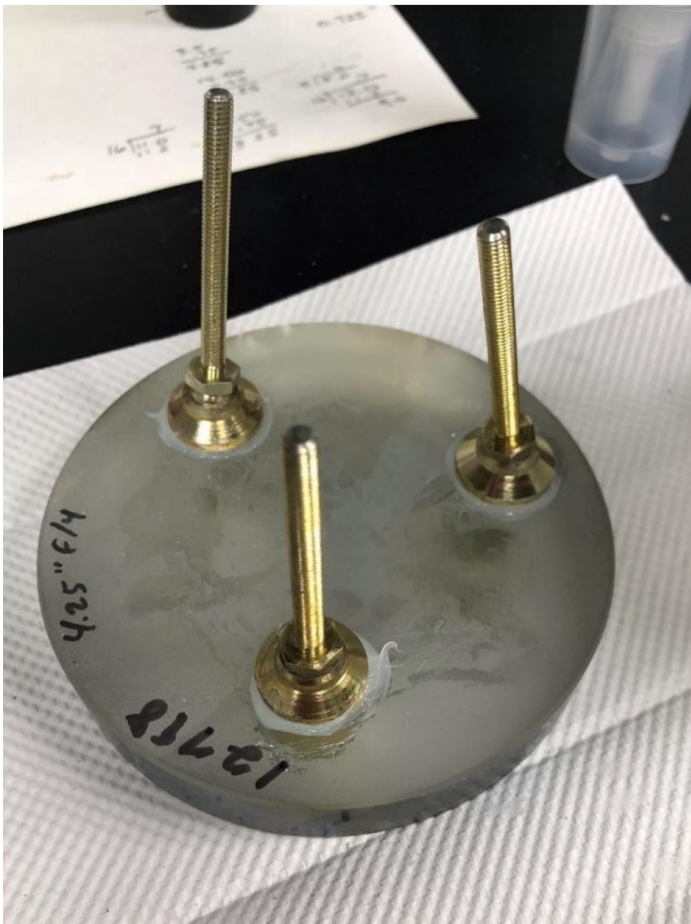
3. ShenkleScope mounted to Celestron single fork-arm go-to mount.

Of course, the astronomy gods intervened, and as soon as I completed this project, the clouds and bad weather rolled in. Plus, I still need to fashion a shroud and baffle, and tweak the design a bit. Hopefully, this resurrected "ShenkleScope" will be my new grab and go choice for a quick, low-powered, large FOV look at the heavens.

Incidentally, a little research revealed that Paul Shenkle had regularly gone to the annual Stellafane Amateur Telescope Maker's Conference in Springfield, Vermont, and had occasionally entered some of his homebuilt scopes in the competition. Paul would go on to win an award at Stellafane in 1969 with still another version of this open tube telescope, as shown in the accompanying photo.



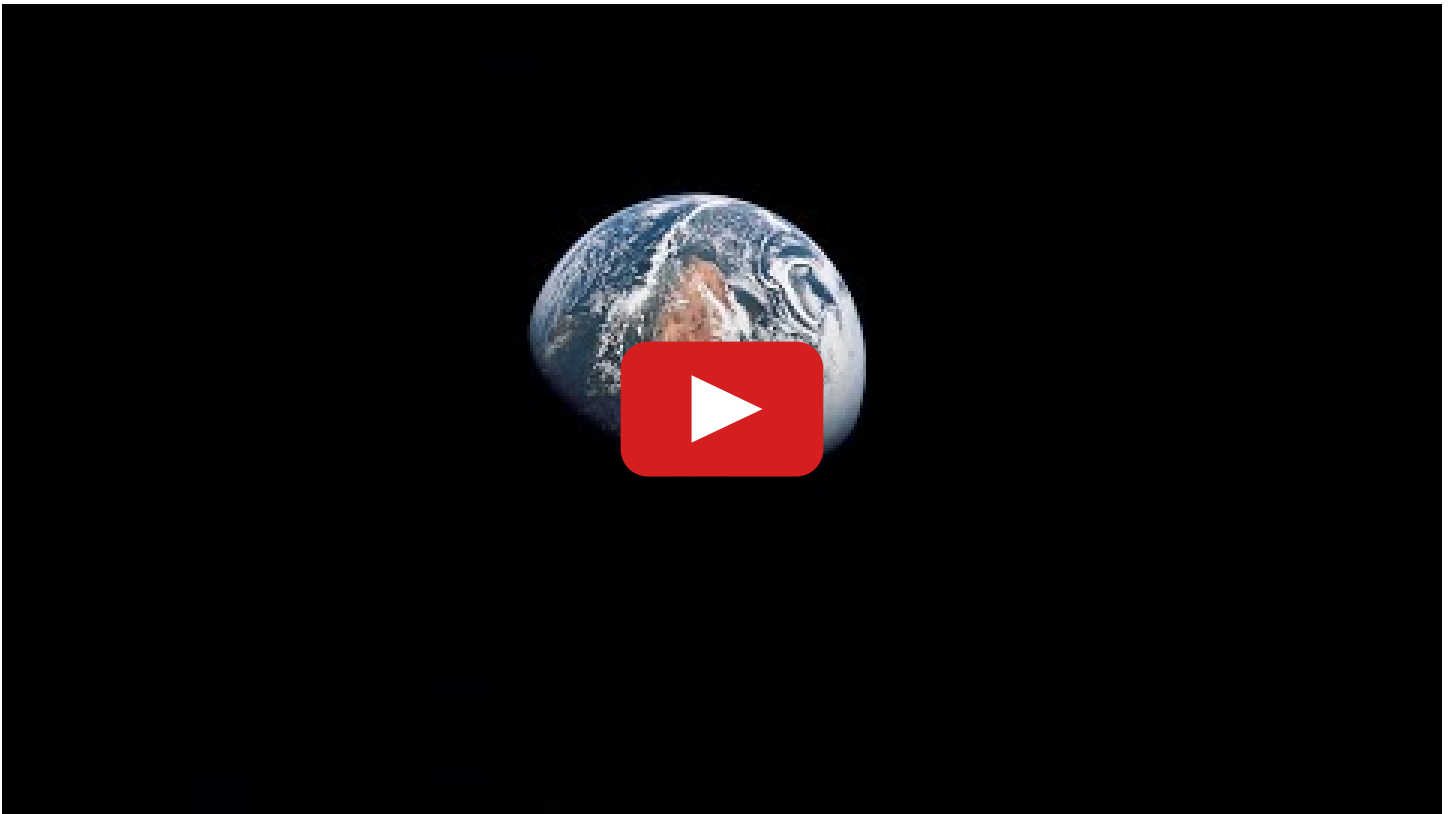
4. Paul Shenkle's scope on display at Stellafane in 1969.



2. Left, chair glides silicone-glued to the back of the mirror. Right: my home-made Vixen dovetail.

To mount the mirror, I used some chair glides that I ordered from McMaster-Carr. They had fine threads which would allow for precise mirror alignment. I used silicone glue to attach the chair glides to the back of the mirror and used compression springs to allow for tension. After doing an alignment using a laser collimator, I was able to achieve a good alignment.

I wanted this to be a simple grab and go telescope, and I have a Celestron single fork arm mount that I use for my C-8, so it seemed logical to use this mount. Being my frugal self, instead of buying a Vixen style dovetail, I decided to make one out of 1 x 3-inch oak. The angles required for these dovetails were easily cut using a table saw, and I cut the dovetail length to fit between the two wood rings on the scope. I'm sure at some point there may be some issues with the dovetail clamp marring the oak, but if and when that occurs, I will just cut another one.



*Happy Holidays, Earthlings;
be kind.*

Sky Above 40°33'58"N 75°26'5"W Friday December 3, 2021 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

Copyright © 1989 by Jef Poskanzer.

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

DECEMBER 2021

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			01	02	03	New Moon 04
05	06	07	08	09	First Quarter Moon 10	11
Deadline for submissions to the Observer 12	13	14	15	16	17	Full Moon 18
General Meeting - 7:00 PM						
LVAAS Board of Governors Meeting 19	20	21	22	23	24	Christmas 25
Last Quarter Moon 26	27	28	29	30	31	

JANUARY 2022

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
						New Years Day 01
New Moon 02	03	04	05	06	07	08
First Quarter Moon 09	10	11	12	13	14	15
General Meeting - 7:00 PM						
16	Full Moon 17	18	19	20	21	22
Deadline for submissions to the Observer 23	24	Last Quarter Moon 25	26	27	28	29
LVAAS Board of Governors Meeting 30	31					

2022 LVAAS EVENT CALENDAR

Contributed by Bill Dahlenburg

2022 LVAAS Event Calendar												
	Sundays				Saturday 7:00 PM Astro Imaging	Saturday Star Parties	Mondays Scouts at S. Mountain	Multi-Day Weekends Scouts at Pulpit R.	Moon Phase			
	General Meeting time	Date/location	Board meeting	Observer submission deadline					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
 Cherry Springs S.P.
 Stellafane
 Black Forest S.P.
 MegaMeet

April 9-10
 June 2-5
 July 28-31
 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.

Every effort will be made to properly credit the sources of the material used in this publication. If additional credit is required, please notify editorlvaas@gmail.com.

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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.

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