

The Observer

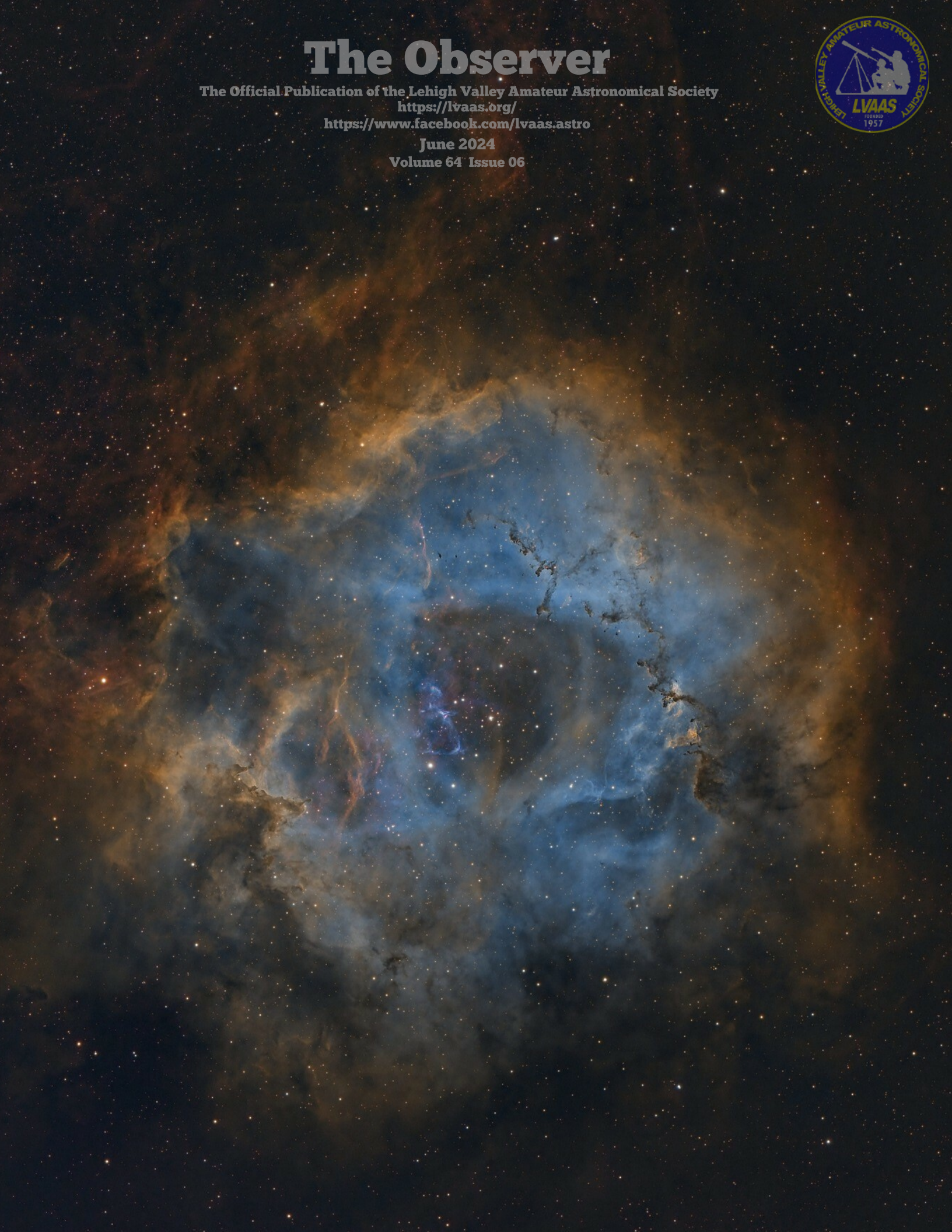
The Official Publication of the Lehigh Valley Amateur Astronomical Society

<https://lvaas.org/>

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

June 2024

Volume 64 Issue 06





Get ready! It's picnic time!

When: July 13th 5:00 pm (rain date July 14th)

Where: South Mountain

PotLuck

Please plan to bring a covered dish, dessert, or side dish to share and a chair

Beverages will be provided

This year's picnic is shaping up to be an exciting event, so save the date. We are still working on details; some things that we can tell you are:

The talk will be from Mike Huber 7:00 pm

Telescope auction

Swap meet bring your own table

We are looking for some help if you can help, please contact Kyle Kramm at

Kman10274@gmail.com



Minutes from the LVAAS General Meeting – May 5, 2024

The May 2024 LVAAS General Meeting was conducted electronically using an on-line service and at the South Mountain headquarters. Approximately 55 people were in attendance.

Director Benjamin Long opened the meeting at 7:01 p.m.

Tonight's General Meeting's presentation was *A Guide to Collecting Meteorites* by Gregory T. Shanos, PharmD. Gregory is a pharmacist by profession, and a NASA Solar System Ambassador by passion. He is a member of the Museum Astronomical Resource Society (MARS), Local Group of Deep Sky Observers (LGDSO), and the St. Petersburg Astronomy Club (SPAC) in Florida. Dr. Shanos became an amateur astronomer in 1985 with the apparition of Halley's Comet. His passion for meteorites began a year later when *Sky & Telescope* advertised authentic meteorites for sale. After purchasing three iron meteorites for a total of \$60, he was hooked for life!

Dr. Shanos has also published over 30 review articles in *Meteorite* magazine regarding organic compounds in meteorites. Dr. Shanos has provided the following documents prior to his presentation.

1) *A Beginners Guide to Collecting Meteorites: The Reflector* at

https://lvaas.org/images/library/userfiles/347/A_Beginners_Guide_to_Collecting_.pdf

2) *A Guide to Collecting Meteorites: PDF of Presentation*

https://lvaas.org/images/library/userfiles/347/A_Guide_to_Collecting_Meteorites.pdf

Since the speaker was kind enough to provide the slides of his presentation in PDF format, I do not feel it necessary to summarize his presentation in these minutes. I would direct anyone interested to the above link *A Guide to Collecting Meteorites* to view his slide show.

After questions were answered, a brief break was taken at 8:32 p.m.

The informational meeting resumed at 8:52 p.m.

Membership: Rich Hogg

- The following members completed their Second Readings and are now Full Members:
Michael Anthony
Kyle & Pam Bender (family membership)
Brian C. Brown
Marc Borgo
Thomas & Beth Julius (family membership)
- The following members completed their First Readings:
Theodore Opperman
Fallon Smith
Miretta Wadopian
Scott Wilson
- The following members have previously completed a First Reading and are still eligible to complete a Second Reading to become full members:
Brian A. Brown
Mike Cutrera
Daniel Jackson
Mehar Powar
David Stech and Jill Youngken (family membership)
Christine and Timothy Talley (family membership)
Stas Zharko
- Correction to April Minutes: Cynthia Kuhns gave her First Reading at the April meeting. Her name was omitted from the April meeting minutes.

Director Comments: Benjamin Long

- We are restarting the Red Shift and plan to be open at Star Parties. Expect to see prices increase. There are some good prices on current inventory so get them before prices increase.
- The next Star Party will be Saturday May 18, 2024 with the first planetarium show starting at 6:00 p.m.

Stargazers: Kyle Kramm

- The next meeting of Stargazers will be Friday May 10 starting at 7:00 p.m. at South Mountain.
- This is an informal meeting open to all members where we can explore the sky together.

- If you are having trouble with your equipment or want to learn more about it, you are encouraged to bring it.
- If the skies are clear we will open the observatories.

Astro-Imaging: Tom Duff

- The next Astro-Imaging meeting is Saturday May 11 at 7:00 p.m. at South Mountain.
- If weather permits we usually go outside and image. If not we will usually have a video and discuss topics of interest to members.
- All who are interested in imaging are welcome and encouraged to attend. You are welcome to bring any of your equipment for show and tell.

Next General Meeting:

- The next General Meeting will be held on Sunday June 9 at 7:00 p.m. at South Mountain

The May 2024 General Meeting was recorded.

The meeting was adjourned at approximately 9:04 p.m.

Submitted by Joe Zitarelli, Secretary



Exploring Alien Seas in the Solar System

Saturday June 15 at 7 p.m. at South Mountain Headquarters
and via Zoom

Dr. Bonnie J. Buratti

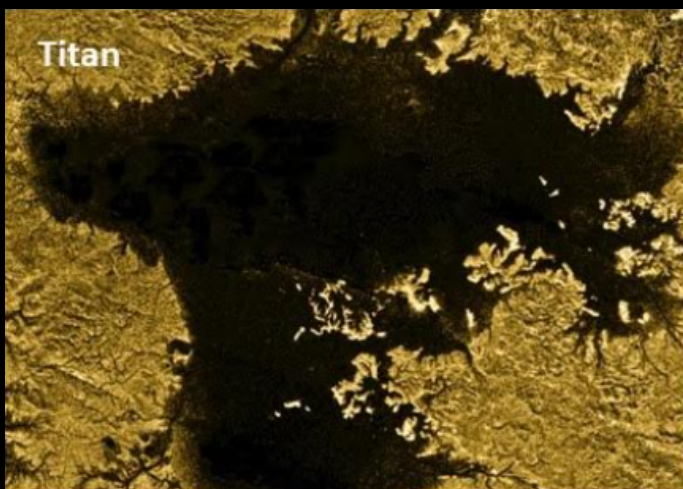
Principal Scientist



Europa Clipper Deputy Project Scientist

NASA Jet Propulsion Laboratory,

California Institute of Technology



LVAAS General Meeting

Sunday, June 9, 7 p.m.

South Mountain Headquarters *and via Zoom*

"Spaceships for the 21st Century aka SpaceX and the 7 Little Dwarfs"

presented (via zoom) by

John Conrad

NASA/JPL Ambassador



The presentation will, of course, begin with the historical context for how the 20th century prepared us for a much more dynamic, and fortunately more affordable, situation for getting into LEO and beyond today and tomorrow. What has happened in the last couple decades is truly astonishing - a story of what commercial business types like to refer to as *Disruptive Technology Changes*. The starting gun (guns actually), which may have been long overdue, are NASA's commercial space initiatives.

John Conrad followed his childhood interest in space and spaceflight through Astronautical Engineering degrees at the US Air Force Academy and Purdue University straight into leadership in unmanned space programs for the Air Force and NASA. Now retired, his extensive career experiences never wandered far from technology development and application, in Aerospace and Defense as well as IT and Energy and Security programs. His life-long learning (formal and informal) and accumulated tools have enabled him to make frequent presentations to orient and promote science applications and solutions to a variety of audiences. His most recently used platforms include telescopes and binoculars to share his knowledge and love of astronomy and cosmology. John is eager to speak to your group as a NASA/JPL Ambassador, bringing you the expertise of NASA scientists and engineers, providing insights into US progress in exploring space.

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

Education and Outreach News and Opportunities

Our bylaws list the following as our #1 purpose:

“To encourage and promote interest in the study of astronomy and its allied subjects from the amateur standpoint.”



Blaine Easterwood

It is in that spirit that I share the following information:

The LVAAS Book Club

Want to learn about astrophysics? Short on time? Even if you have an abundance of time, we have the book for you ... AND we will meet to discuss it. Here are the details:

Astrophysics for People in a Hurry, by Neil deGrasse Tyson (ISBN: 9780393609394)
Open Discussion at South Mountain (or Zoom) on June 2, 2024, at 11 a.m.

The book takes you on a densely packed, fascinating journey through the cosmos. Each page is loaded with astrophysical tidbits that illuminate the wonders of the universe, from the Bing Bang all the way to Dark Energy, making the complexities of the cosmos both comprehensible and captivating.

If you want to learn about these things, and so much more, then pick up a copy of the book and join us for a discussion on June 2nd.

We will discuss the book in the LVAAS library on June 2nd, at 11a.m. If you want to join via zoom, contact me and I'll provide the link.

Astronomy Course

Have some free time on Tuesday evenings this summer? Why not join us at South Mountain to view an online Astronomy course via Zoom? Thanks to Joe Zitarelli, one of our dedicated volunteers who serves in several capacities, we are offering the following course:

Adventures in Astronomy: Approaching Infinity
Tuesdays, 7:30 PM-9:00 PM, Eastern Time, over Zoom
June 11 thru August 13, 2024

We will meet at South Mountain and join the Zoom meeting to view as a group. More information on the course can be found at the following link:

<https://www.astronomyteacher.net/>

Please let Joe, Linda, or Blaine know if you will be attending: education@lvaas.org



Pulpit Rock Panorama by Michael L. Morgan ~ submitted by Sandra Repash

Via Sandy Mesics, Programs Chairperson

Upcoming LVAAS General Meeting Speakers

June: John Conrad will speak via Zoom on "Spaceships for the 21st Century"

July: Mike Huber et al. will speak on "The Seestar 50 and other Imaging Instruments in our Rental Fleet"

August: (*Pulpit Rock*) Brett Fadem will speak on "The New Muhlenberg Observatory"

September: Steve Conrad will speak via Zoom on "Occultations"

October: Mario Motta will speak via Zoom on "Building a 32-inch Telescope and Observatory"

November: *speaker needed*

December: Emma Page (Lehigh U) will speak on "Transits and Eclipsing Binary Stars"

Please contact astrosandy@gmail.com if you have ideas for speakers, or would like to volunteer yourself!

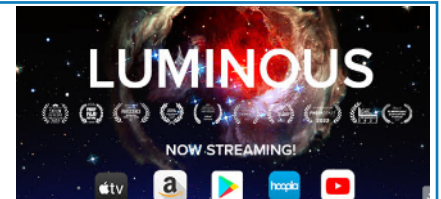
KUDOS! Thank you, LVAAS Volunteers!

This month a big LVAAS "Thank You!" goes out to members **Andy Heilman** (course instructor), **Cedric Lumsden, Aidan Berger, Phil Doherty, Ron Kunkel and Frank Lyter** who hosted eight students taking an Astronomy course in Kempton. **Ron, Phil and Frank** also hosted the scouts at Pulpit Rock.

There also were some work activities and planning meetings at Pulpit Rock supported by **Bob Weiss, Dave Lobach, Ron Kunkel and others**. Thank you for all you do for LVAAS! Kudos!

Via Sandy Mesics, Programs Chairperson

Some of you may remember our screening of the film Luminous at our October 2021 general meeting. The film is now streaming if you wish to see it again. (If you do watch the film on any of the streaming platforms, please be sure to leave a review! Remember, it's still [free on Kanopy!](#))



Via France Kopy, Observer Editor

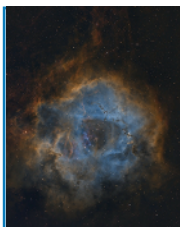
Last month I stated that I intended to put together a special edition of our members' eclipse images. Turns out the date that I hoped this would be completed by was somewhat ambitious. I'm working on it; please stay tuned. Also, if anyone is interested in helping out with our newsletter, please contact me editorlvaas@gmail.com

Correction

In our May issue I mistakenly described Bob Mohr's eclipse image on page 2 as showing a 'solar flare' when it was actually a prominence.

Via Earl Pursell, UACNJ Liason

Public Program Nights have resumed at United Astronomy Clubs of New Jersey; please visit uacnj.org for info.



cover: **The Rosette Nebula NGC 2237 in Monceros**
Acquired Jan 1, 2024, Schnecksville PA

Imager: Paul Tracy

[more on the Rosette](#)

Takahashi FSQ106EX4 f/5

ASI2600MM S: 12 x 300 sec, H: 12 x 300 sec, O: 12 x 300 sec

Hubble Palette Processing in PixInsight with BlurXterminator and NoiseXterminator



NGC7023, Iris Nebula Imager: Thomas Duff Black Forest Star Party Sept.16 2023

The Iris Nebula (also known as NGC 7023 and Caldwell 4) is a bright reflection nebula in the constellation Cepheus. The designation NGC 7023 refers to the open cluster within the larger reflection nebula designated LBN 487.

The nebula, which shines at magnitude +6.8, is illuminated by a magnitude +7.4 star designated HD 200775. It is located near the Mira-type variable star T Cephei, and near the bright magnitude +3.23 variable star [Beta Cephei](#) (Alfirk). It lies 1,300 light-years away and is six light-years across. (Source: Wikipedia)

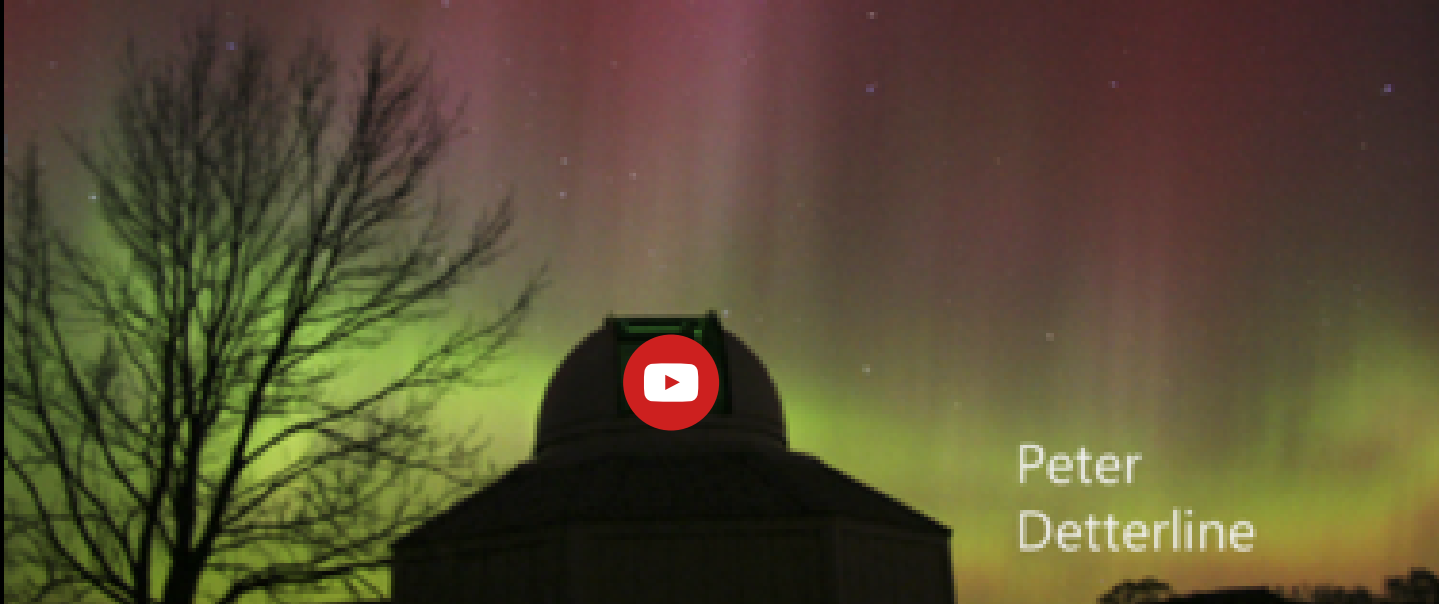
Scope: Stellarvue SVX130T
Camera: ZWO 533MC
Mount: IOptron CEM 60
Capture: ASIAIR PLUS

Guidescope: Stellarvue 80mm
Guide Camera: ZWO 290mm
Exposures: 20x5min OSC Lights, No Filters, 5x5min Darks
Processing: Pixinsight



Peter Detterline's
Night Sky Notebook
JUNE 2024

Night Sky Notebook
what you see when you look up



Peter
Detterline

Remembering Rodger Gordon

By Sandy Mesics

Former LVAAS member Rodger Gordon passed away on December 10, 2023, at the age of 82. According to his obituary, “Rodger graduated from Pen Argyl High School in 1958 and was elected to their academic Hall of Fame in 2017 for his contributions in the field of Astronomy. His contributions included over 100 articles in publications such as *Sky & Telescope*, the *Practical Observer*, and the *Amateur Telescope Maker's Journal*. Rodger also wrote the book *Observing the Craters of Mars*, which was published in 2003.”



When Rodger joined LVAAS in 1958, prospective members had to have three readings. In September 1958, Rodger wrote a letter explaining why he couldn't make the meeting for his reading, but LVAAS founder Joe Grady moved that Gordon be made a member without the third reading. The motion passed. The same letter “... contained interesting comments on his latest celestial sightings, including what he believed may have been a UFO. A short discussion followed in an effort to ascertain if Mr. Gordons observation could be confirmed.”

In 1965, Rodger served as LVAAS Assistant Director. It was the only time he held office. That year, he acquired his treasured 3.5-inch Questar telescope, and his letter extolling the virtues of the scope was used in Questar ads. He extensively used a 4-

inch Unitron refractor as well. Gordon was a dedicated visual observer, particularly with refracting telescopes of small aperture. He owned hundreds of eyepieces and was known as the “Eyepiece King” of the hobby.



Rodger Gordon with his 60 mm refractor in July 1958.

Rodger was by far the most prolific author to write for *The Observer*. His contributions spanned over 30 years, from April 1962 until 1993, with only a brief hiatus from May 1966 to January 1967, and from September 1980 to July 1982, when he returned to monthly columns. In 1992, *Observer* editor Gary Becker commented, “Incidentally, Gordon's writing has improved a lot during the last 30 years, but he still

submits all his articles in longhand. Thank goodness it is legible more often than not." Becker also reported that well-known amateur astronomer Norman Sperling pronounced that Gordon's column was the longest continually running column of any amateur astronomical publication written by essentially the same individual. Interestingly, an all-time record was set in the December 1979 issue, when Rodger Gordon had four articles in the *Observer*, for a total of 10 of the 13 pages in the issue!



Rodger at Pocono Mountain Optics in 1996. From *Cloudy Nights*.

Gordon's style was always opinionated, often pessimistic, sometimes controversial, and occasionally generated rebuttals. In March 1976 he started a series of articles on telescopes. In one of the articles, he bashed the performance of a 5-inch Celestron SCT. He called for an independent agency, specifically the Astronomical League, to evaluate telescope manufacturers' claims, and said that magazines such as *Sky & Telescope* and *Astronomy* only accept ads from those companies whose optics passed this evaluation. Celestron took exception to this but did not run a rebuttal. There is some correspondence between Gordon and LVAAS attorney Randy Warden regarding potential liability.

In 2003, Gordon self-published a 52-page book, "Observing the Craters of Mars," in which he claimed that astronomer John E. Mellish observed craters on Mars

as early as 1915, using the 40-inch refractor at Yerkes Observatory. However, Mellish's drawings made at this time were destroyed in a fire in 1964, and no copies are known to exist. Gordon also claimed that perhaps E.E. Barnard observed craters on Mars as well in 1894, but a perusal of his drawings showed no such thing. The observations that Gordon wrote about likely didn't happen. Gordon also reported on

Martian canals: In a letter to *Sky & Telescope* in April 1988, Gordon claimed that he, his wife Irene, and Bill McHugh, all LVAAS members and experienced observers, saw Martian canals on June 9, 1967, while observing with an 8-inch f-9 reflector.

In his later years, Rodger was no longer an LVAAS member, although he came to general meetings from time to time, mostly to inquire about the progress of the 40-inch telescope. Rodger was a long-time critic of the project and spoke at length about how the design was faulty and will never work.

In his long career, Rodger worked for Classic Photo, the former R & R Toy Factory, Edmund Scientific Co., Nazareth Area Middle School, Edmund Scientific, Vernonscope, Optical Techniques, and as a consultant for Questar. He served in the US Navy Reserves from 1960-1962.

References

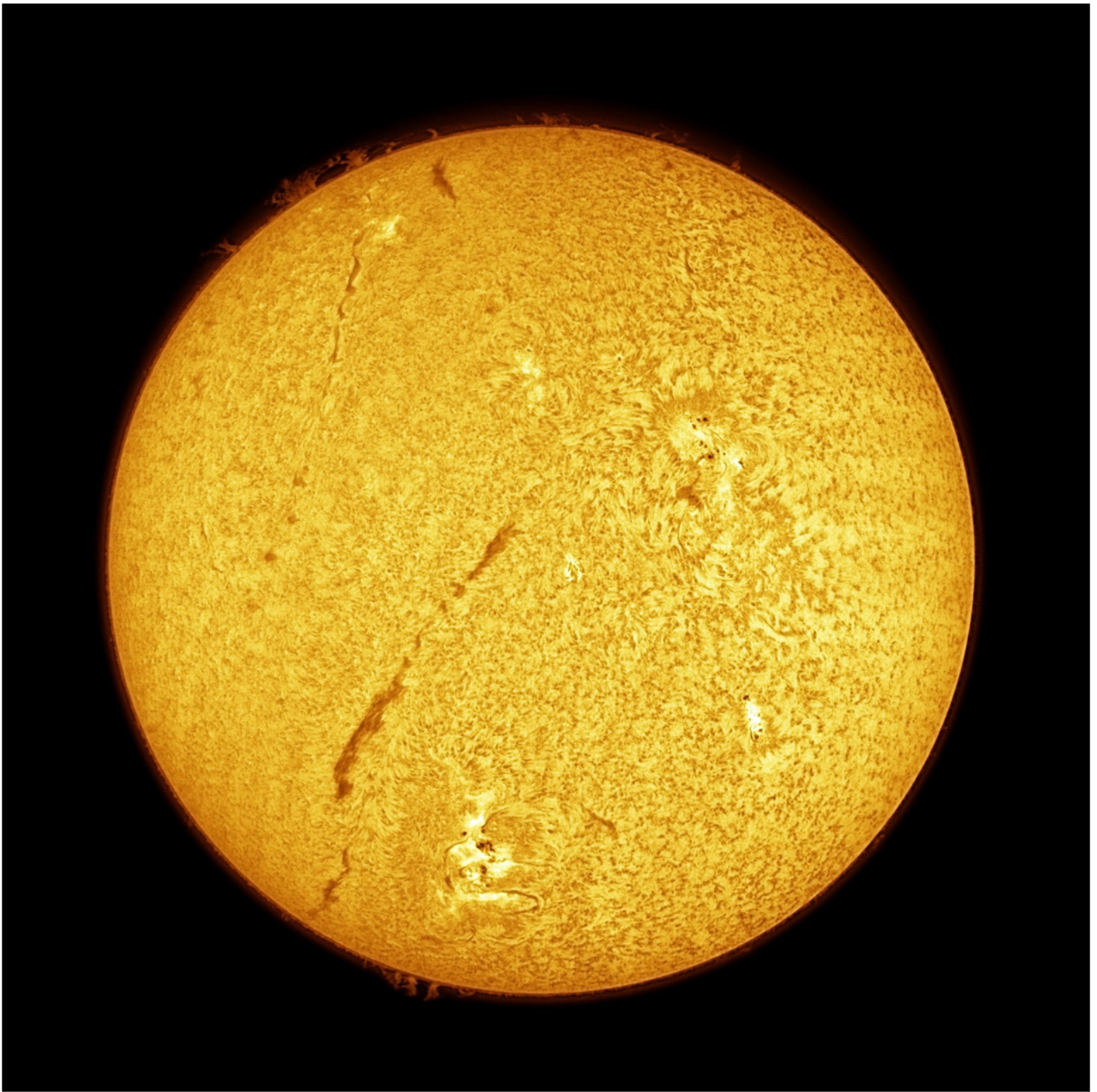
Rodger Gordon obituary:

<https://obits.lehighvalleylive.com/us/obituaries/etpa/name/rodger-gordon-obituary?id=53819860>

LVAAS minutes, September 7, 1958

Photo credit: <https://www.cloudynights.com/topic/528893-quantums/>

The Observer, various issues.



Solar full disk Imager: Paul Tracy Acquisition Date: May 31, 2024

The sun is pretty active again this morning. Sunspot 3697 is starting to make its way around again. The image above was taken from my driveway using the Daystar Solar Scout 60 and ASI2600MM. Processed in PixInsight Solar Toolbox

<https://www.spaceweatherlive.com/en/solar-activity.html>



StarWatch

Auroras: Dancing Curtains of Light

On the evening and morning of May 10/11, North America and Europe experienced one of the most spectacular aurora displays in recent decades. The northern lights were seen as far south as the Florida Keys and Mexico. The Lehigh Valley was cloudy for most of the evening, but the weather cleared briefly around dawn, about an hour after I went to bed. My friend, Adam Jones, happened to be traveling near Gillette, Wyoming, on May 10 and witnessed the display from Devils Tower National Monument. There was no phenomenon associated with auroras that he did not observe, including arcs, bands, curtains, rapid auroral motion, rayed arcs, and coronas in all the rainbow colors. Adam's four-minute video taken in actual time with an iPhone 13 gives credence to the magnificence of the display. The spectacle lasted from dusk to dawn and was bright enough for him to navigate without artificial lighting. The three-day-old moon set around 10:30 p.m. See Adam's impressive video [here](#). * We are in the auroral high season, which can last for several years, sparked by particularly intense geomagnetic storms associated with an active sun, now approaching sunspot maximum. I am headed to Iceland this fall to see the northern lights (hopefully), but other solar outbursts that might bring the auroras to the Lehigh Valley are certainly possible during the next several years. Here is a condensed primer on their origins. * Auroras are formed by the solar wind interacting with our atmosphere. Charged particles, primarily electrons and protons, escape the sun's corona, its outermost atmospheric layer, at the location of coronal holes where the sun's magnetic field snaps (does not loop back into the sun) transporting them wayward. Primarily coronal mass ejections (CMEs) and flares are the events that allow large quantities of plasma to escape and spiral outward from the sun. Some solar events are directed toward the Earth along the sun's tangled and twisted

magnetic web. The solar wind travels at an average speed of one million miles per hour, but much higher velocities occur in major outbursts. Charged particles from the sun surrender their solar influences to the Earth's magnetic field (magnetosphere), created by the synchronized motion of electrons in the Earth's liquid outer core. * The magnetosphere wiggles like Jell-O, sculpted by the pressure waves created by the solar wind. It dragged into an elongated, teardrop-shaped structure called the magnetotail. In this area, magnetic lines of opposite polarity can occasionally connect, heating, accelerating, and trapping solar plasma within the magnetosphere of Earth. Once ensnared, the plasma works its way back along magnetic field lines generated by the Earth into the inner and outer Van Allen Radiation Belts. In these two densely packed magnetosphere regions, particles can spiral back and forth from geomagnetic pole to pole at near-light speed. When the Van Allen Belts become overwhelmed, the plasma will detach and spill deep into the Earth's atmosphere around a circular region called the auroral oval that hovers near the Arctic Circle. In the Northern Hemisphere the oval centers itself southwest of the town of Alert on Canada's Ellesmere Island. As the plasma descends, primarily electrons and some protons sideswipe air molecules, transferring their momentum (energy) to the outer electrons of oxygen atoms and nitrogen molecules. This causes them to jump to specific higher energy levels. When these excited electrons transition back to their lowest energy states, they descend in a ladder-like pattern in a variety of steps or jumps. Many of these transitions produce ultraviolet and infrared radiation, **invisible** to the human eye; however, a small number of these downward energy transitions generate the flickering, dancing, quivering light that we see as auroras. Let's hope another vibrant display occurs soon. Ad Astra!

©Gary A. Becker -- beckerg@moravian.edu or garyabecker@gmail.com
Moravian University Astronomy - astronomy.org

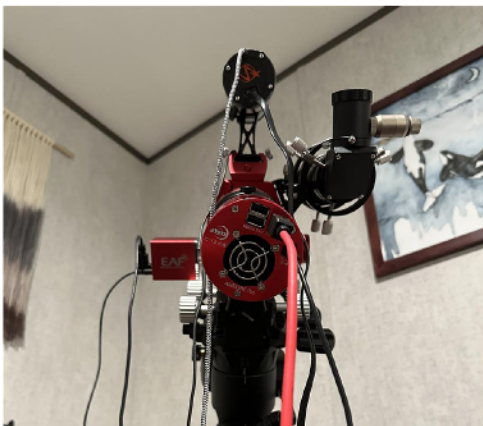
Telescope For Sale

Celestron NexStar 8se SCT 2032mm F10 Alt-Az, go-to motorized scope with 8" dew heater ring. Comes with the following eyepieces: 6mm, 8mm, 13mm, 17mm, 25mm, 32mm and 2x Barlow lens. Also comes with F6.3 focal reducer, AUX port splitter, electronic focuser (unmounted), and carrying cases for tripod and optical tube. Scope is four months old and has been used once. \$600. bodhi.black@1791.com (267) 377-6229.



Telescope For Sale

Astrophotography Rig - Four months old, only out under the stars twice. Rig consists of Redcat 51 Gen 3 250mm F4.9 scope, Celestron StarSense Autoguider, 9x50 finderscope, ZWO EAF electronic focuser, ZWO ASI533MC Pro cooled color camera, 2" filter drawer with Moon and UHC filters, telescope heater strap with manual PWM temperature controller, Celestron AVX equatorial mount, external GPS receiver, (3) 12vdc power supplies, powered USB hub and Windows 10 laptop for equipment interface and image processing. \$2800 bodhi.black@1791.com (267) 377-6229





2024

Have you renewed your LVAAS membership?

LVAAS PayPal link: https://www.paypal.com/donate/?hosted_button_id=FBP8Y5VX5QXNW

(remember to add a note with your name, and membership type)

If your information has changed:

Online information update form: <https://form.jotform.com/233314308714147>

Printable form:

https://lvaas.org/filemgmt_data/files/LVAAS_Membership_Renewal_Form.pdf

Complete instructions: <https://lvaas.org/page.php?page=Renewing>

Questions? email membership@lvaas.org

Renewals were due by March 1.

New members who joined after October 1st are paid up for 2024.

Regular: \$45

Family: \$65

Junior/Student: \$15

Sustaining: \$90

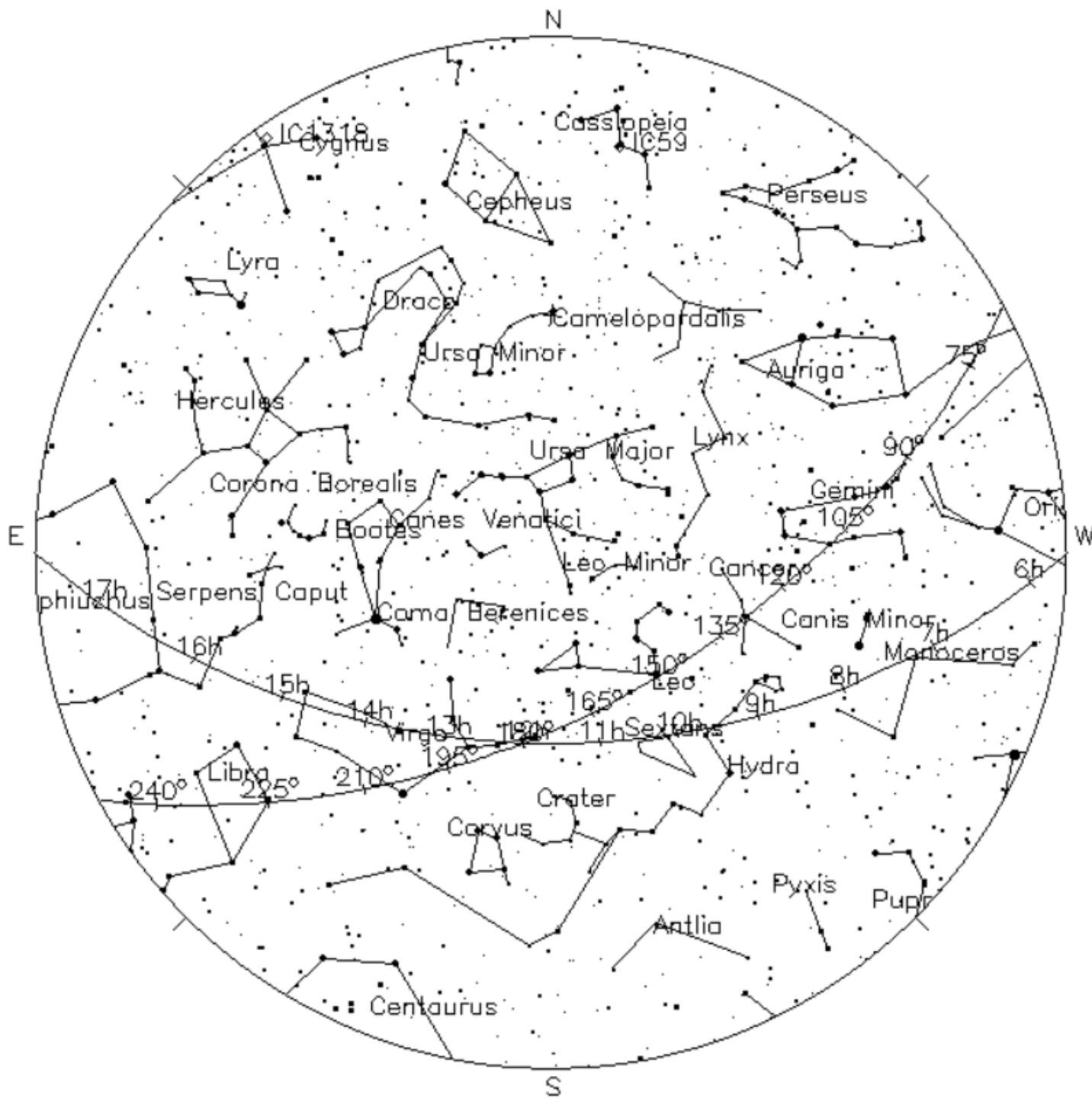
JUNE

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
						Astroimaging Meeting - 7:00 PM 01
Book Club Meeting 02	03	04	05	Cherry Springs Star Party 06	Cherry Springs Star Party 07	Cherry Springs Star Party 08
Cherry Springs Star Party 09 General Meeting 7:00 PM South Mountain	10	11	12	13	First Quarter Moon 14 Stargazers Group Meeting	Star Party 15
Father's Day 16	17	18	19	Summer Solstice 20	Full Moon 21 Scout Camping	Scout Camping 22
Scout Camping 23 Deadline for submissions to the Observer	24	25	26	27	Last Quarter Moon 28	Astroimaging Meeting - 7:00 PM 29
LVAAS Board of Governors Meeting 30						

JULY

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	01	02	03	Independence Day 04	05	06
07	08	09	10	11	Stargazers Group Meeting 12	First Quarter Moon 13 General Meeting/Picnic 5:00 PM South Mountain
General Meeting/Picnic 5:00 PM South Mountain (Rain date) 14	15	16	17	18	19	Star Party 20
Deadline for submissions to the Observer 21 Full Moon	22	23	24	25	26	Last Quarter Moon 27
LVAAS Board of Governors Meeting 28	29	30	31			

Sky Above 40°33'58"N 75°26'5"W Saturday June 01 2024 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/>

2024 LVAAS EVENT CALENDAR

Contributed by Bill Dahlenburg

2024 LVAAS Event Calendar											
	Sundays		Board meeting	Saturday			Observer Submission Deadline	Moon Phase			
	General Meeting time	location		Astro-Imaging	Star Parties	Stargazers Group		New	1 st	Full	3 rd
January	14	3:00 PM Muhlenberg	28	no meeting	no meeting	no meeting	1/21/24	11	17	25	3
February	4	3:00 PM Muhlenberg	25	no meeting	no meeting	no meeting	2/18/24	9	16	24	2
March	10	3:00 PM Muhlenberg	24	no meeting	16	8	3/17/24	10	17	25	3
April	14	7:00 PM S.M.	28	6	13	12	4/21/24	8	15	23	1
May	5	7:00 PM S.M.	19	11	18	10	5/12/24	7	15	23	1 30
June	9	7:00 PM S.M.	30	1 29	15	14	6/23/24	6	14	21	28
July	13/14	5:00 PM S.M.	28	x	20	12	7/21/24	5	13	21	27
August	10/11	7:00 PM Pulpit	25	3 31	17	9	8/18/24	4	12	19	26
September	8	7:00 PM S.M.	29	x	14	13	9/22/24	2	11	17	24
October	13	7:00 PM S.M.	27	5	12	11	10/20/24	2	10	17	24
November	10	2:00 PM S.M.	24	2	9	8	11/17/24	1	9	15	22
December	8	2:00 PM ?	29	7	no meeting	no meeting	12/22/24	1 30	8	15	22

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 4/20 - 4/21
 Mega Meet 8/9 - 8/11
 CSSP 6/6 - 6/9
 Stellafane 8/1 - 8/4
 BFSP

October 4-5-6?

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 observer@lvaas.org.

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. Early submissions are greatly appreciated. PDF format is preferred. 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 the editor.

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