



Peoria Astronomical Society, Inc.

P.O. Box 10111 Peoria, IL 61612-0111

Section of Peoria Academy of Science

Affiliate of the Astronomical League

www.astronomical.org

STARLITE

Fall, 2026

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20260406 Artemis II Earthly view

Officers:

President: Dan Son, sonshine1992@gmail.com

Vice-President: Jesse Hoover

Secretary: Carol Hootman

Treasurer: Dave Monroe, dave.monroe@comcast.net

Directors:

Parliamentarian: Dave Monroe, dave.monroe@comcast.net

Nominating Chairman: Open

Legal Agent: Chris Schmidt

Northmoor Chairman: Dan Son, sonshine1992@gmail.com

Jubilee Chairman: Jesse Hoover

PEORIA ASTRONOMICAL SOCIETY IS NOW ON FACEBOOK:

www.facebook.com/PeoriaAstronomicalSociety

Update your address, phone or email changes

Please notify Dan Son at sonshine1992@gmail.com if you will be getting a new mailing address, email address and/or phone number. It is important that he has your personal information correct so you will continue to receive the Starlite and the Reflector.

2026 Meteor Showers & other events:

The **Northern Taurids** Nov 11th -12th & **Southern Taurids** Nov 4th -5th produce about 5 per hour with a noticeable increase in fireballs activity. Comet 2P/Encke parent object.

The **Leonids** peak on Nov 17-18 and will be 1st quarter Moon. Comet Temple -Tuttle parent object. This is a late night shower as Leo does not rise till 1am.

Geminids meteor shower is Dec 13-14 just before 1st quarter moon. This is an early shower to watch as Gemini the twins are rising after 8pm and high in the sky by midnight. The moon will have set long before this hour. Saturn will be high in the sky for some good viewing.

Illinois Dark Skies Star Party is October 8th through the 10th. It is hosted by the Sangamon Astronomical Society at Jim Edgar Panther Creek State Fish & Wildlife Area. It is a bortle 3.5 sky and a good time. For more information go to sas-sky.org

Ramblings from the President

Hello and hope your summer was fun and productive. I picked up the Seestar S50 Pro and have played with it some, the weather has not been the best. Northmoor has been a lot of hit and miss weather. Saturn is up and so we have a great object to show the people coming out. I can say thanks enough for the volunteers who make Northmoor run. Tim Groins was to take the Lunt Solar scope out to the Morton Pumpkin Festival to show to the public but the weather was cloudy and rainy. Trying is all we can do sometimes and thanks to Tim for suggesting and trying. Do you know as PAS members you too can be trained on our equipment and use it once trained. We have a Lunt Solar Scope to view the sun in H-alpha and can see the chromosphere at the edge of the sun and the dark channels of dense plasma thread across the face of the sun. You can see active regions of the sun such as sunspot groups. We have the Seestar S50 smart scope that opens up the night sky for anyone trained on its use. Look for images from the S50 in this or past issues of the Starlite.

Jubilee has seen its share of ups and downs. The 24 inch scope can be used but the dome motor is still being worked on. We have had some star parties out there during 3rd quarter and new moon weekends and the September members meeting was a fun for all. Lots of hot dogs and hamburgers and clear skies for the night. I know Jesse and I stayed past midnight to view the night sky. The dirt road is getting a little rough and I hope to have it smoothed out before winter.

At our September members meeting we had volunteers reach out to help on the PAS Board. When we send out the Zoom notice, put it in your calendar and click that link at 6:59pm. We need your help in deciding how to best serve our members and the public, otherwise the Peoria Astronomical Society could go away. We are a volunteer based group and most of us never took a course in Astronomy in college if we went to college. We do know how to fix things, write up articles for the Starlite newsletter, keep track of a checking and savings accounts and that is the help we need.

October and November are in my opinion the best for telescope viewing. You stay up late you get the fall/winter objects, the weather is cooler and I like to drink hot chocolate and what could be better at the telescopes than viewing, friends and a hot chocolate with whipped cream! Clear skies and keep looking up!



Facts..just the Facts..

NASA's crawler-transporter 2, which rolled Artemis II's launch vehicle out to the pad, holds the Guinness World Record for heaviest self-powered land vehicle. It weighs as much as roughly 600 semi-trucks and gets a whopping 3 meters per liter (42 feet per gallon) in gas mileage

Phobos orbits closer to its planet than any other moon in the Solar System, and gets closer every year. In roughly 30 to 50 million years, Phobos will get close enough for Mars' gravity to rip it apart, causing debris from the moon to land on Mars and possibly form a ring around the planet.

Juno has found that Europa produces less oxygen than previously thought. The NASA spacecraft measured outgassing from the icy moon's surface, allowing scientists to calculate that the rate of oxygen being produced at Europa is substantially less than most previous studies suggested. Still, the million kilograms (1,000 tons) of oxygen produced by the moon every 24 hours would be enough to keep a million humans breathing for an entire day.

Submission of photos / article content for the Starlite: Dan Son

If you have a photo that you would like to submit for the Starlite, please send these to Dan Son sonshine1992@gmail.com along with a little write-up about the photo. Photos can be from star parties, club events, personal view, etc. Astrophotography is encouraged. Also, if you have educational content, tips, techniques, lessons learned or how-to articles with photos, we encourage that material for the Starlite. We can also put these on our Facebook page if you so desire.

<https://www.facebook.com/PeoriaAstronomicalSociety>

The Caterpillar Matching Gifts Program IRA RMD: Brian Hakes

If you are a CAT Employee/Retiree you can gift the PAS through the CAT matching gift program. Employees/Retirees are asked to submit matching gift forms electronically via the Caterpillar Foundation website, www.caterpillar.com/foundation. The process is easy. Once you made your gift to the PAS you can go online to the Cat Foundation website and complete the electronic form, there is no paper involved. Once the form is registered with the foundation they will notify the PAS and the treasurer will then verify the gift has been received. Because there will be no mailings, the turnaround time for the whole process will be negligible.

If you are required to make an annual mandatory withdrawal from an IRA you can also designate an amount to the Peoria Astronomical Society. Don't forget that the PAS is a 501C(3) organization.

Reflector:

Reflector Magazine digital edition is available for download. You may access an archive of digital issues from the AL website by visiting:

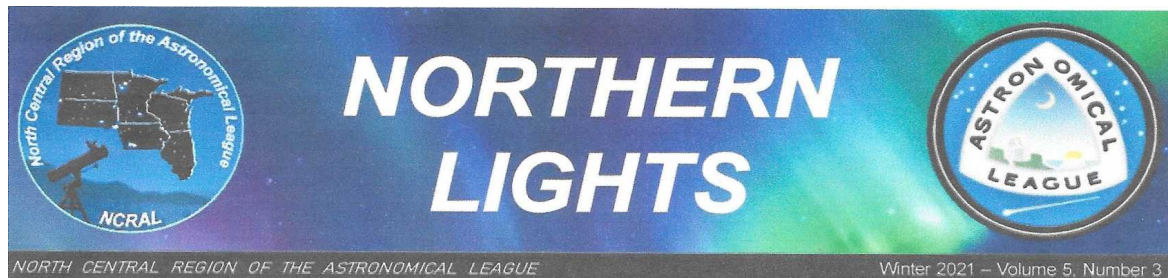
<https://www.astroleague.org/reflector>

NCRAL Newsletter:

The North-Central Region of the Astronomical League (NCRAL) is made up of member societies... the six states commonly thought of as the Upper Midwest of the USA, plus the Upper Peninsula of the state of Michigan. The PAS is a member of the NCRAL. Their Region Newsletter, also named "Northern Lights", has been resurrected and is better than ever! The latest issue's can be read on their website can be found here:

<https://ncral.wordpress.com/newsletter-archive/>

You can access the current issue and all other back issues through this link.



Program Schedule 2026

October 7th Meeting at the Dome Planetarium (7:00 p.m.) Our speaker will be Tyler Ferree, an archaeologist who is a Senior Scientific Specialist at the Western Illinois Field Station of the Illinois Archeological Survey.

While it is acknowledged that pre-contact North American cultures in Ohio and the Southwest established lunar observatories, fewer people know that the Mississippian culture (~850 to 1250 CE) also systematically observed solar and lunar phenomena. His Zoom presentation will provide a general description of the Mississippian culture in Illinois and then dive into the evidence for solar and lunar astronomical alignments at Cahokia, Emerald Mound, and other Mississippian sites in the broader region.

November 7th Banquet at the Lariat Restaurant (5:30 p.m.) Our speaker will be Dr. Nathalie Haurberg, an associate professor of astronomy at Knox College and current Director of the MACRO Consortium. Her topic will be Seeing Double: Untangling Accreting Binary Stars in Optical and Radio.

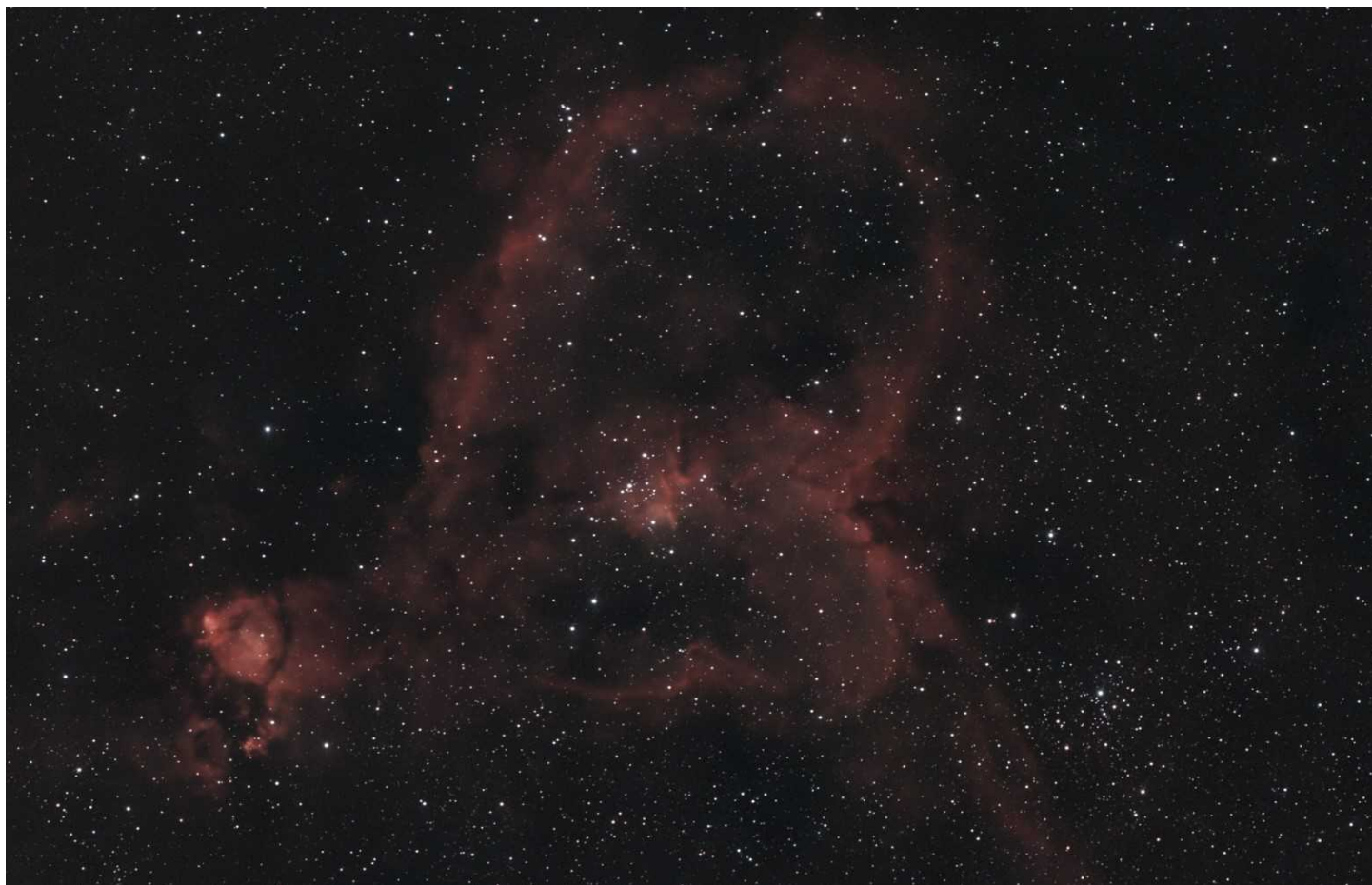
Accreting binary star systems, where one star pulls material from the other, are exceptionally dynamic objects that provide information on how stars form and evolve, contribute to our understanding the expansion rate of the Universe, and shed light on a mysterious new class of objects called "long period radio transients." Using the mighty

Karl G. Jansky Very Large Array (VLA), the MACRO Consortium has observed magnetic cataclysmic variable systems (mCVs) simultaneously in radio and in optical light, and have discovered that these mCVs unexpectedly display pulsed radio emission that does not align with their optical phase.

My Montana Adventure

by Dan Son

My family went to Lakeside Mt (outside of Kalispell Mt) to see my Daughter and her family. She has lived there for about 13 years. The house sites on a hill side and is a bortle 2.5 for darkness. We are blown away every time we walk outside, it is so dark you cant see where you are walking if near trees or on the gravel road that leads to the house. My trip is like most others trips to see family, go to nearby outdoor adventures (Glacier National Park) and be a tourist. I have included a few photos and don't want to overwhelm you with all I did. When we visited Glacier NP I found out they do 2 Star Party events at both ends of Glacier (Apgar Village & St Mary's Visitor Center), 1 in July and 1 in August. Like Peoria sunsets in July are very late (sunset 9:30) and takes a while to get the stars out. They have a dome that holds a 20 inch telescope but the shutter is not working at the present time.



IC1805 the Heart Nebula 85subs 60 seconds each S30 Pro from Montana

I do check out local astronomy clubs and Kalispell has one (Big Sky Astronomy Club). With our limited time I did not get to see them on this trip. Now a few years ago I gave my daughter and her family my 10 inch dob scope and they loved it, so much so Corey bought a 22 inch Obsession. I used it often when out their and see all the Caldwell and a few Herschel objects when out till 2am that may be up and viewable from their hillside (a great East to Northeast view). This year I PACKED MY NEW Seestar S30 Pro into a carry on bag and was set. We had 3 clear nights out of 8 and I did all night plans that allowed me to sleep while the scope worked.

I will tell everyone to go see Glacier National Park. The Going to the Sun Road in the best 3-4 hour minimum scenic drive the US has to offer. You can fly into Kalispell or drive the 24 hours non stop to your final destination (we have driven this 3 times).

Now I know others may have or are going on vacation and if you did anything astronomy related whether it was bring a scope, shooting photos or going to a site please do me a favor and do a write up about your adventure and include a few photos and I will use if for a future Starlite article.



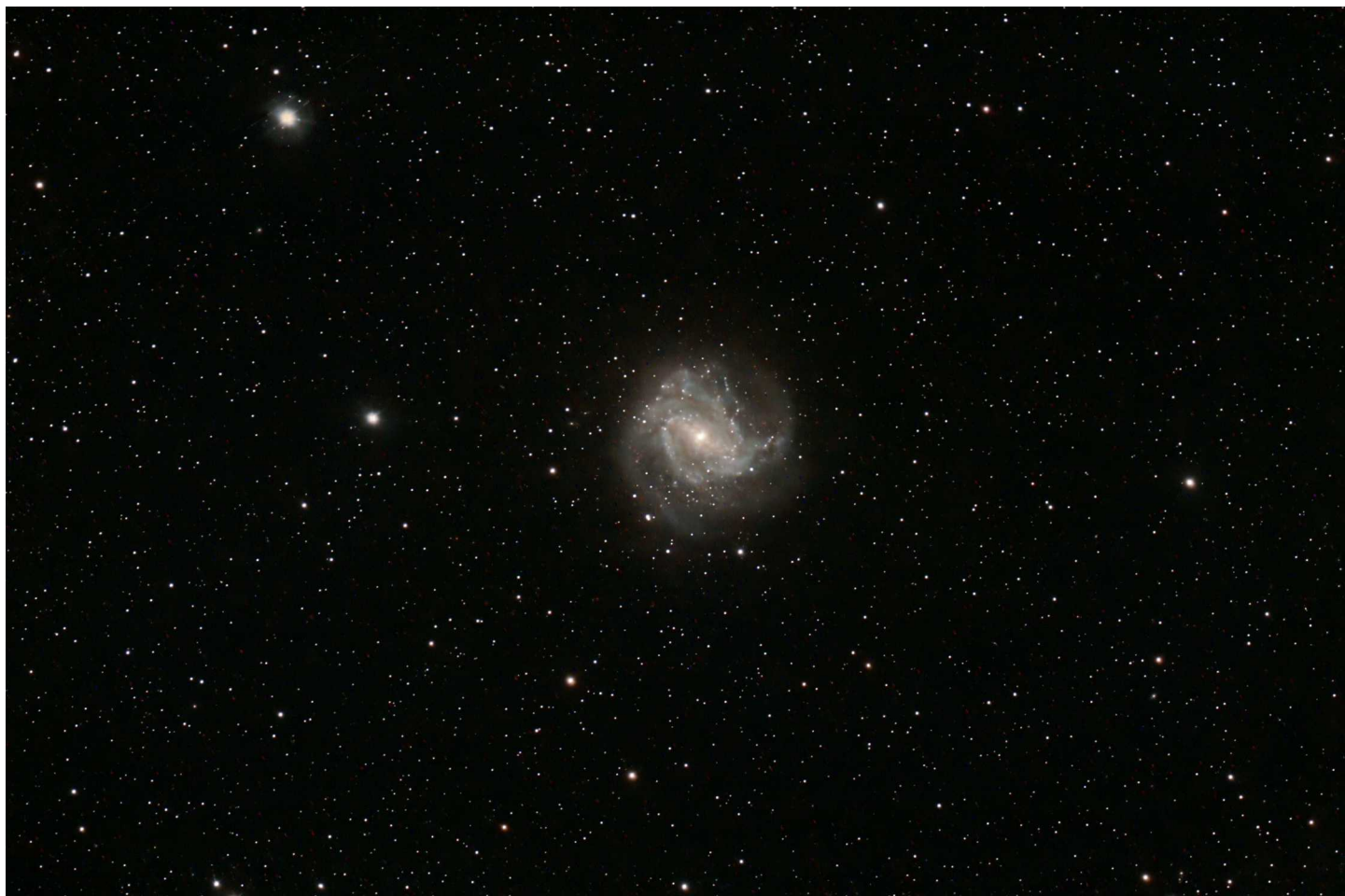
Trail along the McDonald Creek West Glacier 2026

Photos from Members:

Tim Goins
Dwarf
mini

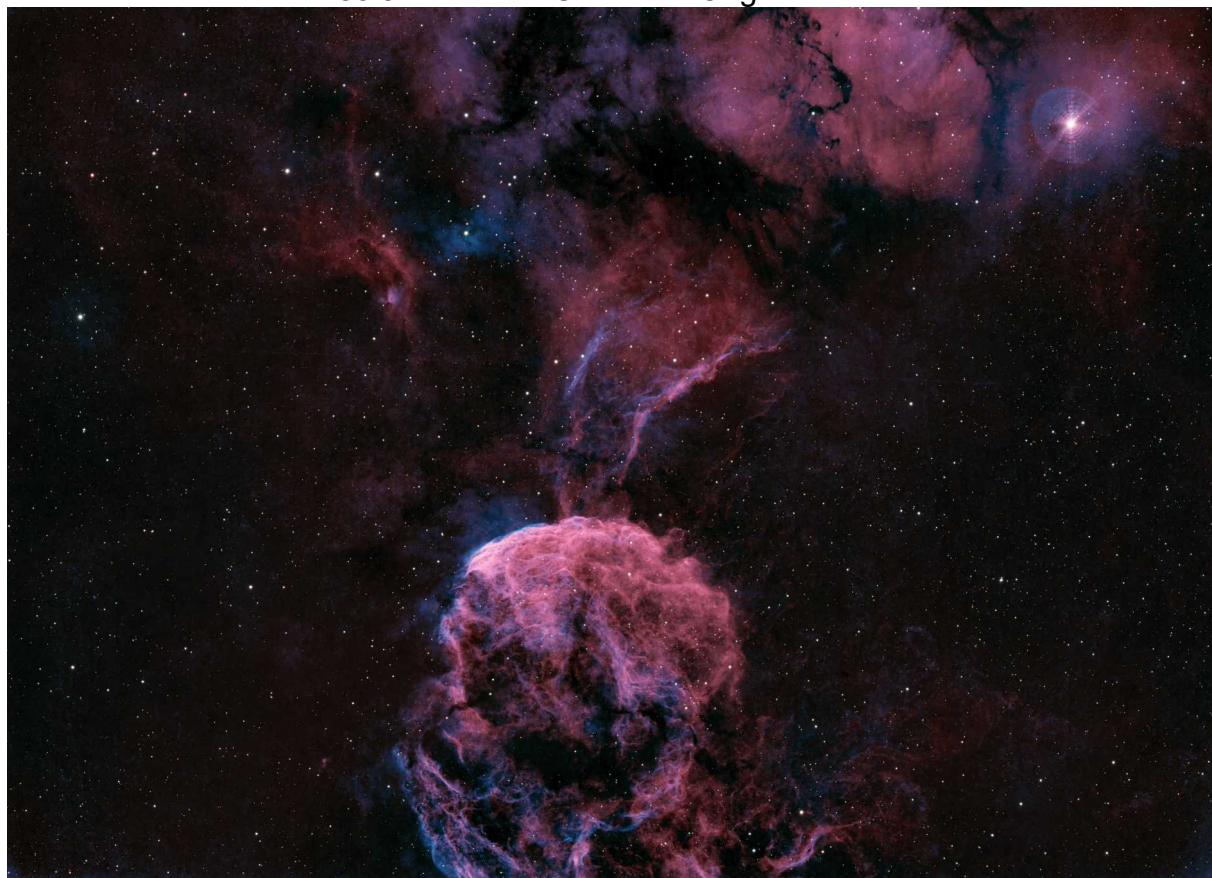


NGC 2244 Rosette Nebula T McGrath



M 83 James Dire Celestron Origin

IC 443 &
IC 444
Linda
Groezinger



C27 Crescent Nebula

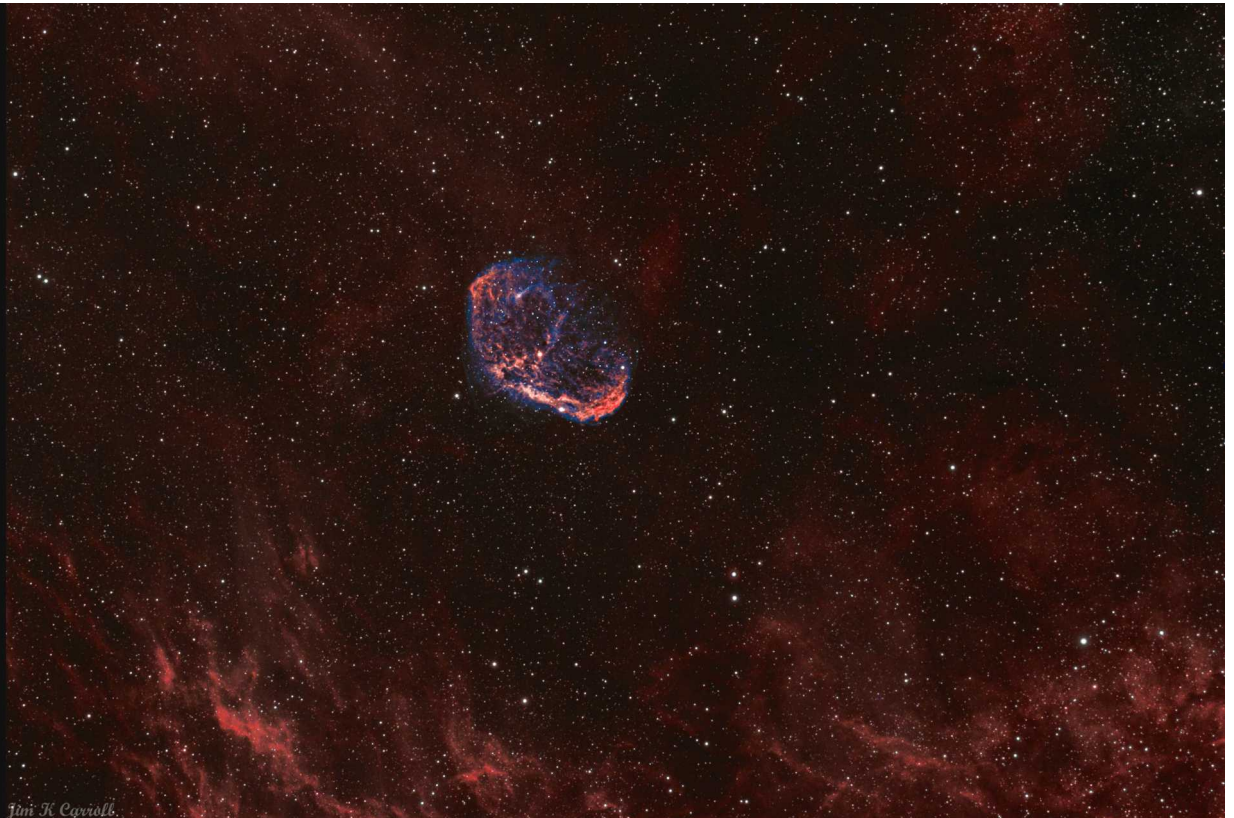
Constellation Cygnus
5000 light-years from Earth
3 light years across
Magnitude 7.4
8'x12' Across

Shock Wave from Wolf-Rayet
Star stellar wind and previously
ejected gases

Red is H-alpha
Blue is OIII

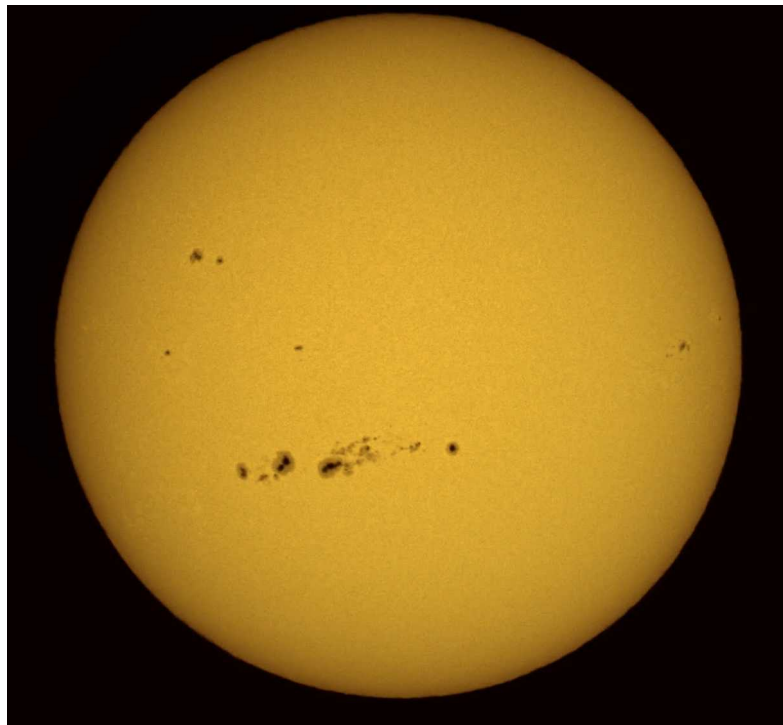
- Peoria, No Moon
- Williams Optics 120mm Triplet
- Skywatcher EQ6 Mount, Auto-guided
- 0.8 Flattener/ Reducer
- 624mm Focal Length (w/reducer)
- f/5.2 (w/reducer)
- Optolong L-Ultimate 3nm H α & OIII
- ZWO ASI2600MC Duo
- 3 hr 35 minutes total exposure*
- 43x5 minute subs
- Deep Sky Stacker
- Lightroom (Color Filter on OIII Blue C27 Only, H α Red Filtered, Manual Select & Desaturate Red Stars, Contrast, Clarity, Texture, Black Levels, Curves, Noise Reduction on Luminance/ Color/ Contrast)
- Output to High Fidelity JPG Files
- Final Adjustments for On-Screen

September 14, 2025



C 27 Crescent Nebula Jim Carroll

Full Sun by Mike Frasca
50mm f5 250mm fl
quadruplet refractor

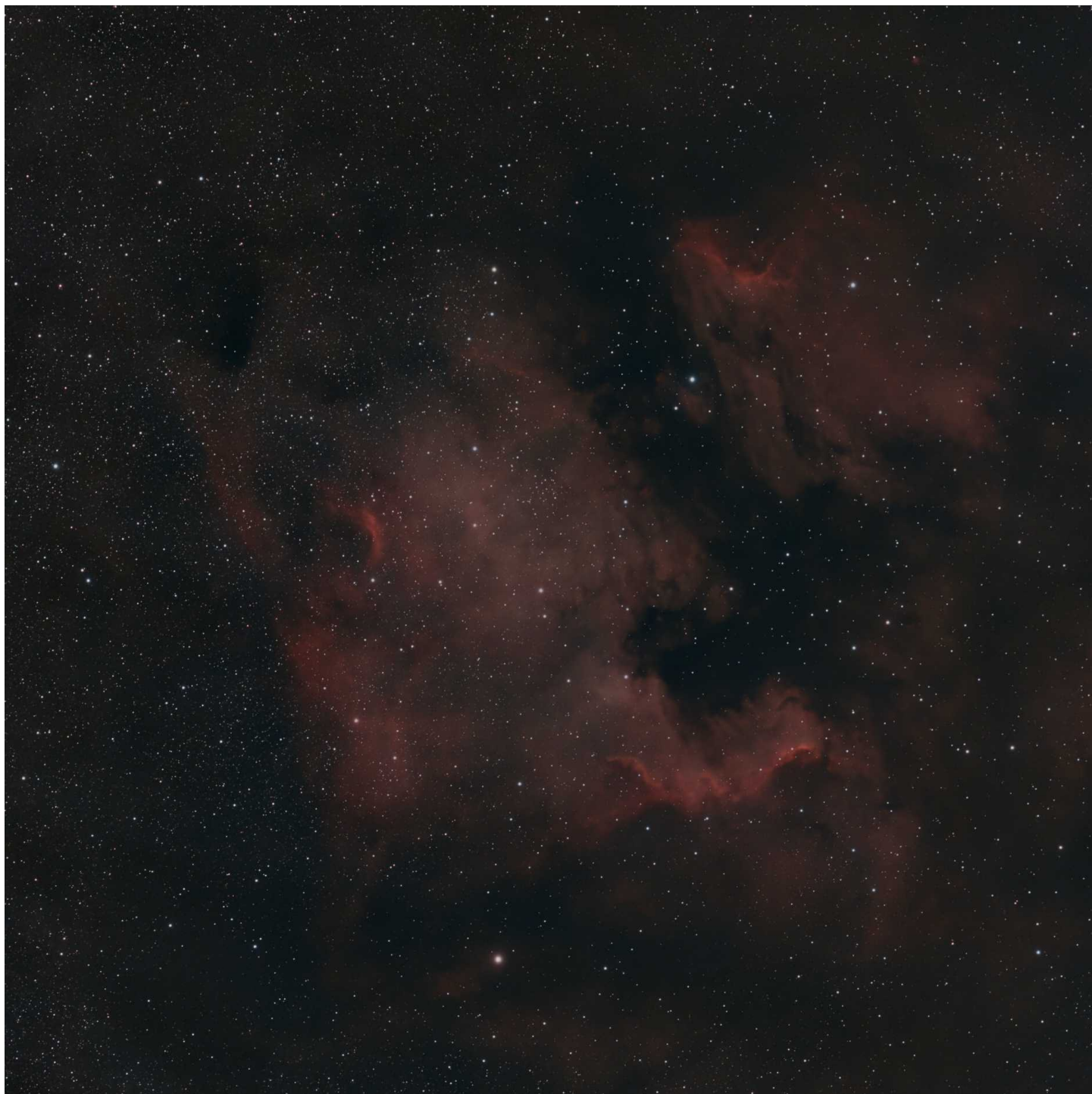




Sun 7/26/2026 James Dire



Star Party at Jubilee 6/12/2026

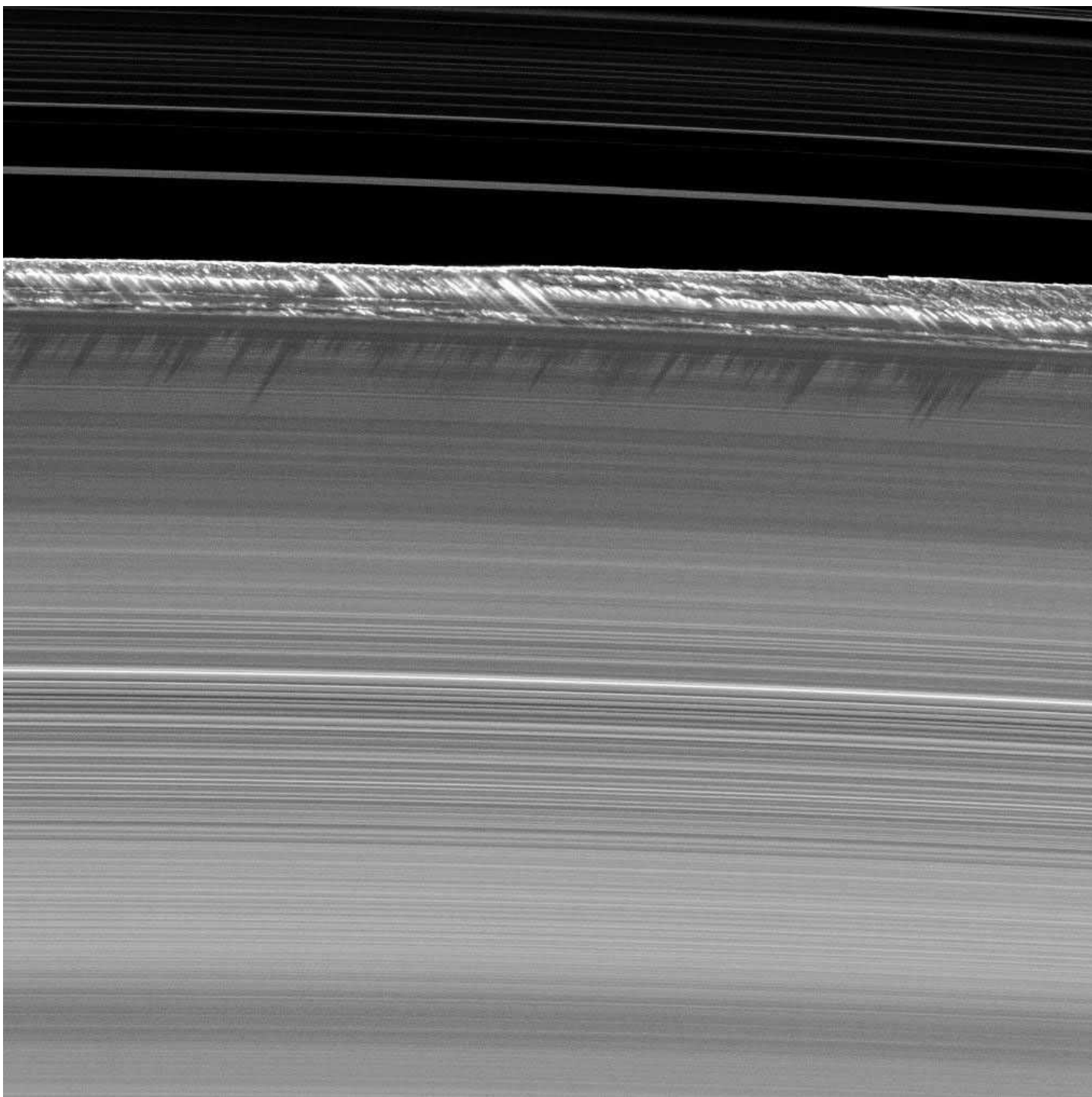


NGC 7000 North American Nebula & IC 5070 Pelican Nebula Dan Son S30 Pro

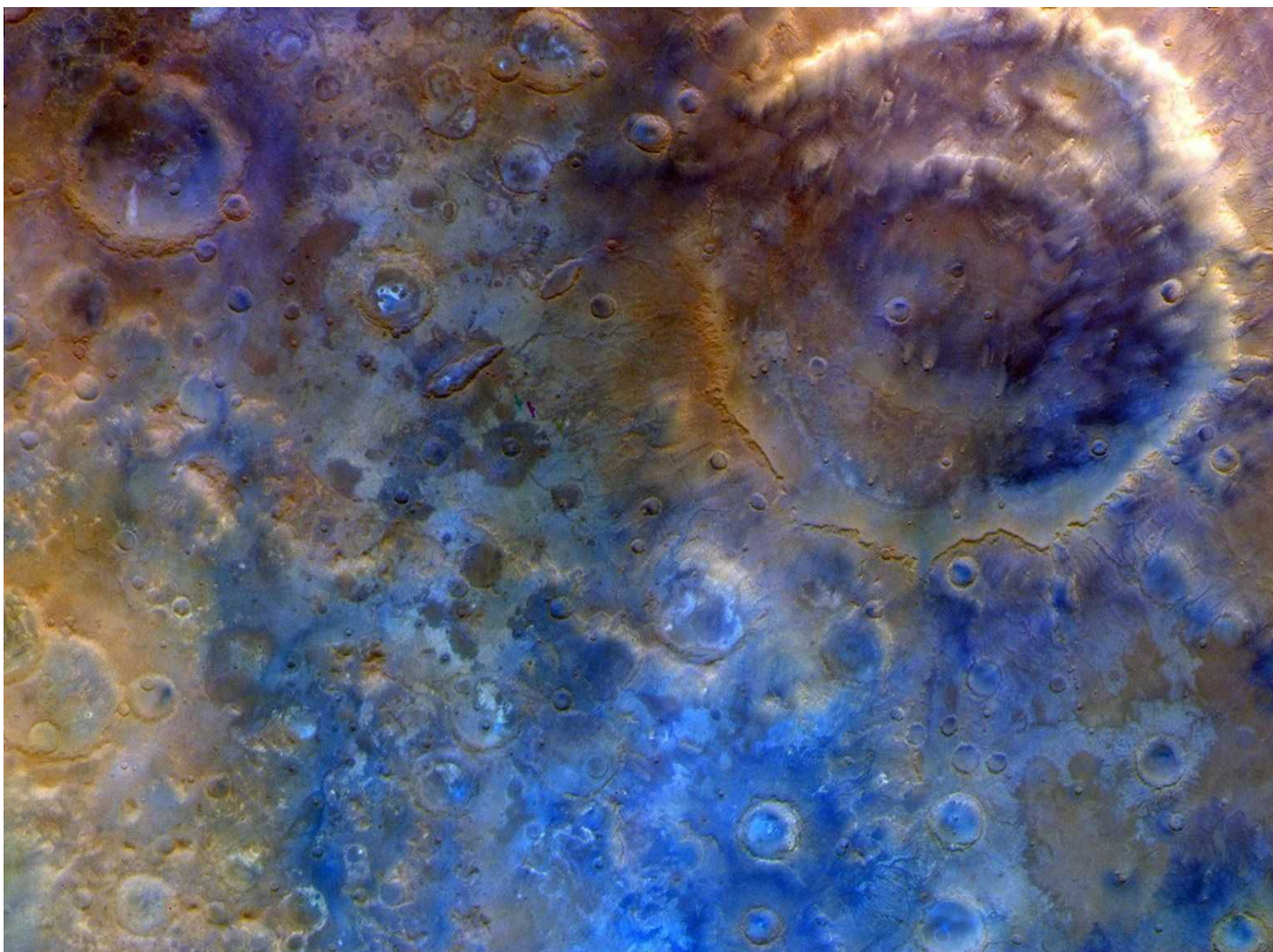
And from other Instruments:



Hubble Celebrating it's 36th Birthday!



Peaks in Saturns b ring by Cassini spacecraft



Captured by the multispectral imager instrument on NASA's Psyche mission, this is an enhanced-color view of the large double-ring crater Huygens (upper right; about 290 miles, or 470 kilometers, in diameter) and the surrounding heavily cratered southern highlands near 15 degrees south latitude. The various colors in this dramatic scene are likely due to differences in the compositional properties of dust, sand, and bedrock in this ancient terrain. The image scale is around 2,200 feet (670 meters) per pixel.

The image was acquired with Imager A on May 15, 2026, at about 1:18 p.m. PDT, shortly after closest approach with the planet. The images have been processed into an enhanced-color view (to bring out color details beyond what the human eye can see) using red, green, and blue data from imager filters.

What to see in the night these coming months

October 6th in the early morning hours we will get to view the lunar occultation of the planet Jupiter. What is a lunar occultation you ask, it is when the Moon passes in front of a star, planet or constellation. This is the 2nd one in the last 2 months. The 1st was a daytime event on September 8th around 2pm (it was a cloudy day) and the next one will be October 6th at around 3:19am and Jupiters reappearance will be around 4:16am. Ok keyholders, anyone want to go out and open up Northmoor?

25 Years ago Fall 2001

James Ray Zimbelman, a planetary geologist from the Smithsonian Institution, will speak at Lakeview Museum on Wednesday, September 12th, at 7:30 p.m. The lecture, entitled “A Close-up Look at Mars,” is open to the public.

Zimbelman has worked at the Center for Earth and Planetary Studies at the National Air and Space Museum since 1988. He works on the analysis of high resolution spacecraft imaging data and geologic mapping of Mars and Venus. He previously worked on the Infrared Thermal Mapper experiment on the Viking orbiter mission to Mars.

His lecture, which will be illustrated with slides of various spacecraft images, reviews what has been learned from Mars, both from the telescopic studies and early spacecraft missions. It concludes with a study of the present view of Mars based on data from the Viking, Pathfinder, and Mars Global Surveyor missions.

This lecture is a must for those astronomers and geologists interested in the study of Mars, a planet that has gotten a great deal of public attention the past few years. There is no charge to attend. By John Barra

50 Years ago:

Previous women in this series, Hypatia, Caroline Herschel and Maria Mitchell were all unmarried – or perhaps we could say they were married to Astronomy. We consider now a sprightly female who was half of the first husband-wife team of noted astronomers. She was Margaret Lindsay. Born in Dublin, Ireland in 1848, the year Caroline Herschel died at the age of 97. Her mother died when Margaret was very young. Her father remarried, leaving his daughter to be raised by her grandmother, who instructed her in star lore. In her early teens Margaret made a small telescope, with which she observed the planets and sunspots. When she read some unsigned articles in a magazine describing the new instrument, the spectroscope, she proceeded to make one for herself. With it she was able to see with delight the dark lines discovered by Fraunhofer in the spectrum of the sun. She also learned the art of photography entirely by self study.

The spectroscope had been used by two Germans – Kirchoff, a physicist, and Bunsen, a chemist – to identify chemical elements. Each element was found to have its own characteristic pattern of spectral lines. The Fraunhofer lines were now explained as the product of the elements in the sun, identical with those on earth. In 1863 an English amateur turned his spectroscope on the stars, and showed that they, like the sun, are composed of the same elements as the earth. He was William Huggins, who had inherited wealth with which he set up his own observatory. By chance he met Margaret Lindsay, and it turned out that he was the author of the anonymous magazine articles. The spectroscope had brought them together. They were married in 1875, she was 27, he 51. They enjoyed thirty-five years of happy and productive life together. They

became famous and when William was knighted by Queen Victoria at her Diamond Jubilee in 1897, Margaret became Lady Huggins.

She was not only an accomplished astronomer, she was also an active feminist, having been deprived of schooling by the anti-feminine prejudices of the time. "I got no aid from the schools, since intelligent justice was denied to women." She was one of the first to wear bobbed hair. She died in 1915, five years after her husband.

George Nelson

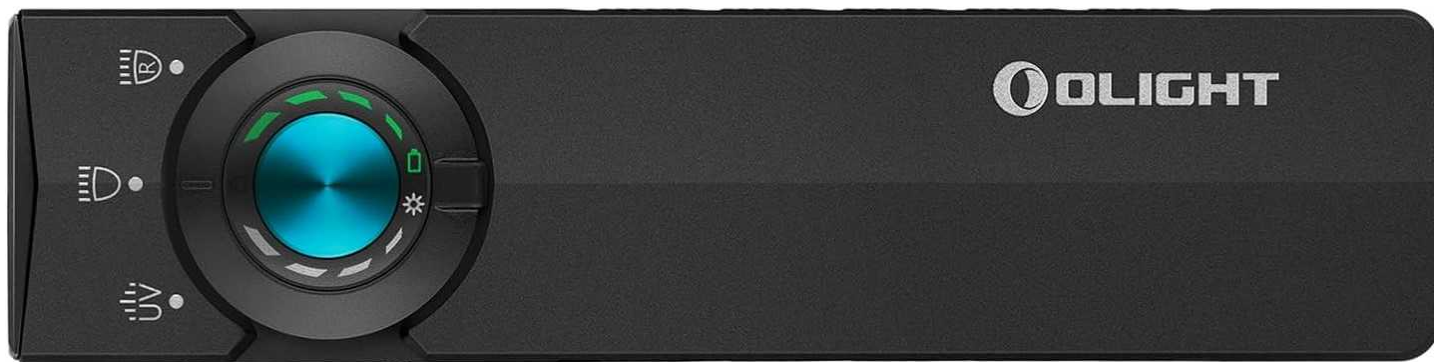
TRIVIA

According to North American Air Defense Command in Colorado Springs, Colorado, as of July 25, 1976, there were 3914 objects in earth orbit. 820 objects are payloads (the satellite itself), 3094 are boosters and other debris. Of the satellites, 396 belong to the U.S.A. and 372 belong to Russia.

As of 2026, there are approximately 31,459 to 35,000+ larger tracked objects in Earth orbit, alongside millions of smaller, untracked debris fragments.

New Toys

I did a purchase of a new red light when Vincent Allen showed me his red light. I had some inexpensive flash light that was like a small flashlight that sometimes came on and sometime did not. The Olight that Vincent showed me had some weight to it. It is made from aluminum and a nice switch setup that allowed for red, white or UV LED light output. Has a nice clip on it to attach to a belt or pants pocket. I have used mine for 4 months now without a recharge (doing it now as I write this up). Mine was purchased from Amazon for \$69. OLIGHT ArkPro Lite EDC Pocket Flashlight Rechargeable with UV Light is my specific model and yes \$69 is pricey for a red light but I have had a few just become junk for no reason and this just feels like it is a tool made to last. What new and exciting tool, scope, lens whatever have you gotten recently. We would love to hear your story so please write up a report with pics and email it to me. Thanks Dan Son

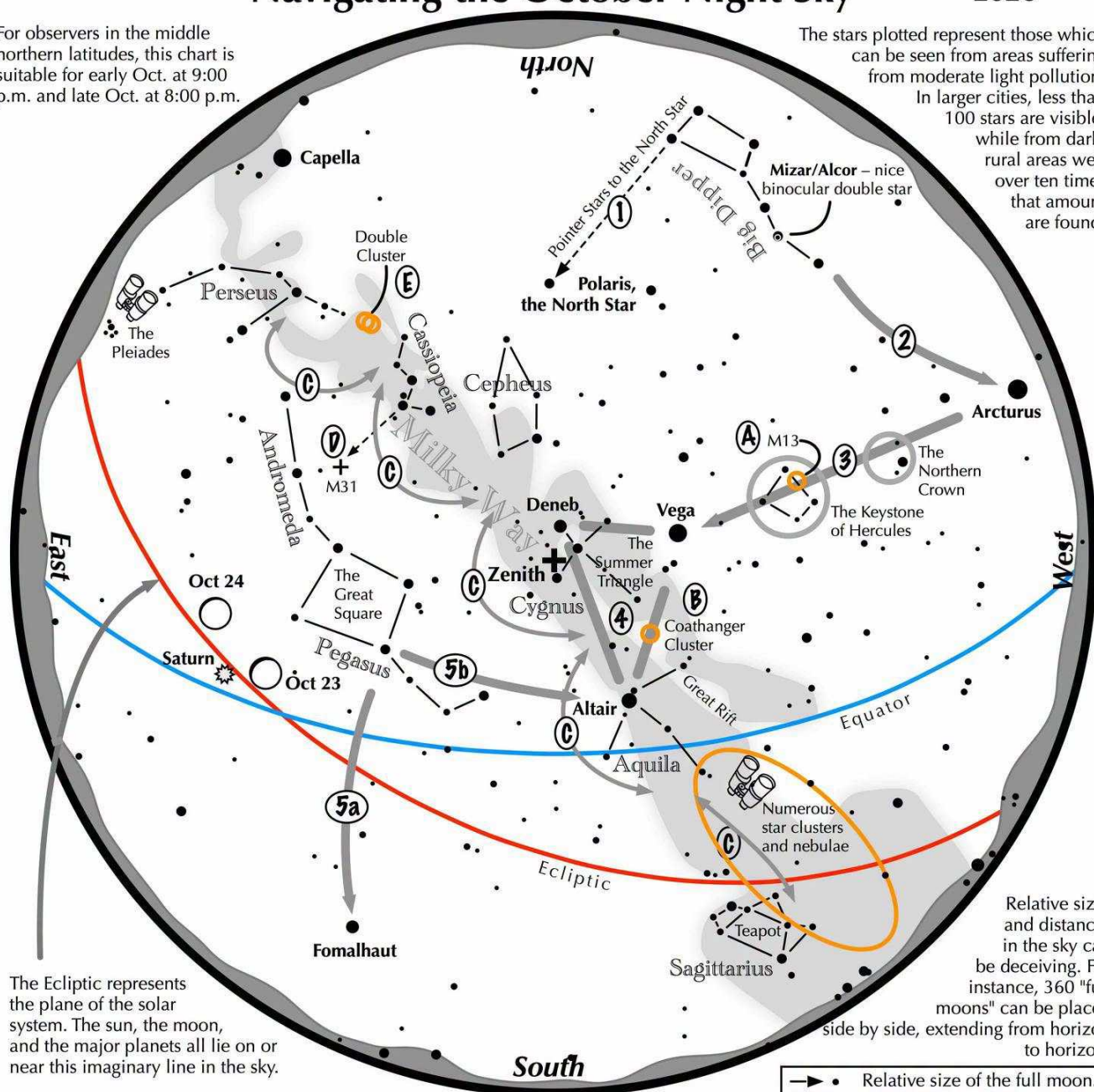


Navigating the October Night Sky

2026

For observers in the middle northern latitudes, this chart is suitable for early Oct. at 9:00 p.m. and late Oct. at 8:00 p.m.

The stars plotted represent those which can be seen from areas suffering from moderate light pollution. In larger cities, less than 100 stars are visible, while from dark, rural areas well over ten times that amount are found.



The Ecliptic represents the plane of the solar system. The sun, the moon, and the major planets all lie on or near this imaginary line in the sky.

Relative sizes and distances in the sky can be deceiving. For instance, 360 "full moons" can be placed side by side, extending from horizon to horizon.

→ • Relative size of the full moon.

Navigating the October night sky: Simply start with what you know or with what you can easily find.

- 1 Extend a line north from the two stars at the tip of the Big Dipper's bowl. It passes by Polaris, the North Star.
- 2 Follow the arc of the Dipper's handle. It intersects Arcturus, the brightest star in the early October evening sky.
- 3 To the northeast of Arcturus shines another star of the same brightness, Vega. Draw a line from Arcturus to Vega. It first meets "The Northern Crown," then the "Keystone of Hercules." A dark sky is needed to see these two dim stellar configurations.
- 4 Nearly overhead lie the summer triangle stars of Vega, Altair, and Deneb.
- 5 High in the east are the four moderately bright stars of the Great Square. Its two southern stars point west to Altair. Its two western stars point south to Fomalhaut.

Binocular Highlights

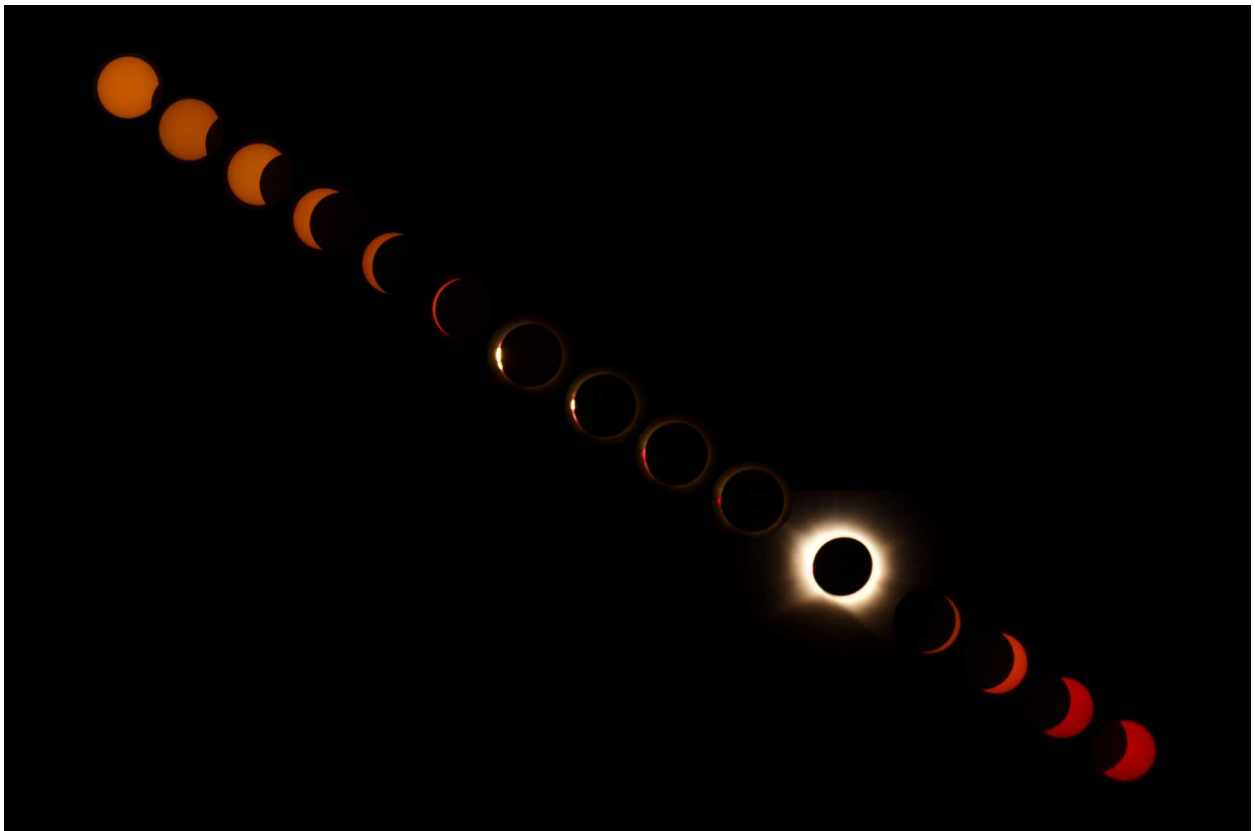
A: On the western side of the Keystone glows the Great Hercules Cluster, a ball of 500,000 stars. **B:** 40% of the way between Altair and Vega, twinkles the "Coathanger," a group of stars outlining a coathanger. **C:** Sweep along the Milky Way for an astounding number of fuzzy star clusters and nebulae amid many faint glows and dark bays, including the Great Rift. **D:** The three westernmost stars of Cassiopeia's "W" point south to M31, the Andromeda Galaxy, a "fuzzy" oval. **E:** Between the "W" of Cassiopeia and Perseus lies the Double Cluster.



Solar & Partial Lunar Eclipse Photos by members:

The total solar eclipse was on August 12, 2026 and PAS had a few members going out to view it. The eclipse was visible from Greenland, western Iceland, northern Spain and a portion of Portugal. The maximum duration was 2 minutes and 18 seconds so enjoy the pictures.

Pictures taken by
James Dire in Riaza
Spain





Taken by Dan Son with S50 Peoria Riverfront

I want to thank Peoria Riverfront Museum & Planetarium for doing a great public outreach for the August 27 Partial Lunar Eclipse. They had a lot of people watch this event overlooking the river late into the night. Thank you Dome Planetarium Director Renae Kerrigan and Planetarium Educator Nick Rae.

For Sale by Members:

From Jim Beard beard_jim@icloud.com or call 615-406-3472

8" Celestron orange tube, Tripod and StarSense. Comes with various eyepieces & Dew Shield. Includes NexStar, Celestron diagonal, 40mm eyepiece & laser pointer.



Unistellar eVscope smart telescope with tripod for \$700.



Unistellar Smart Solar Filter for Evscope and eQuinox telescopes for \$175.

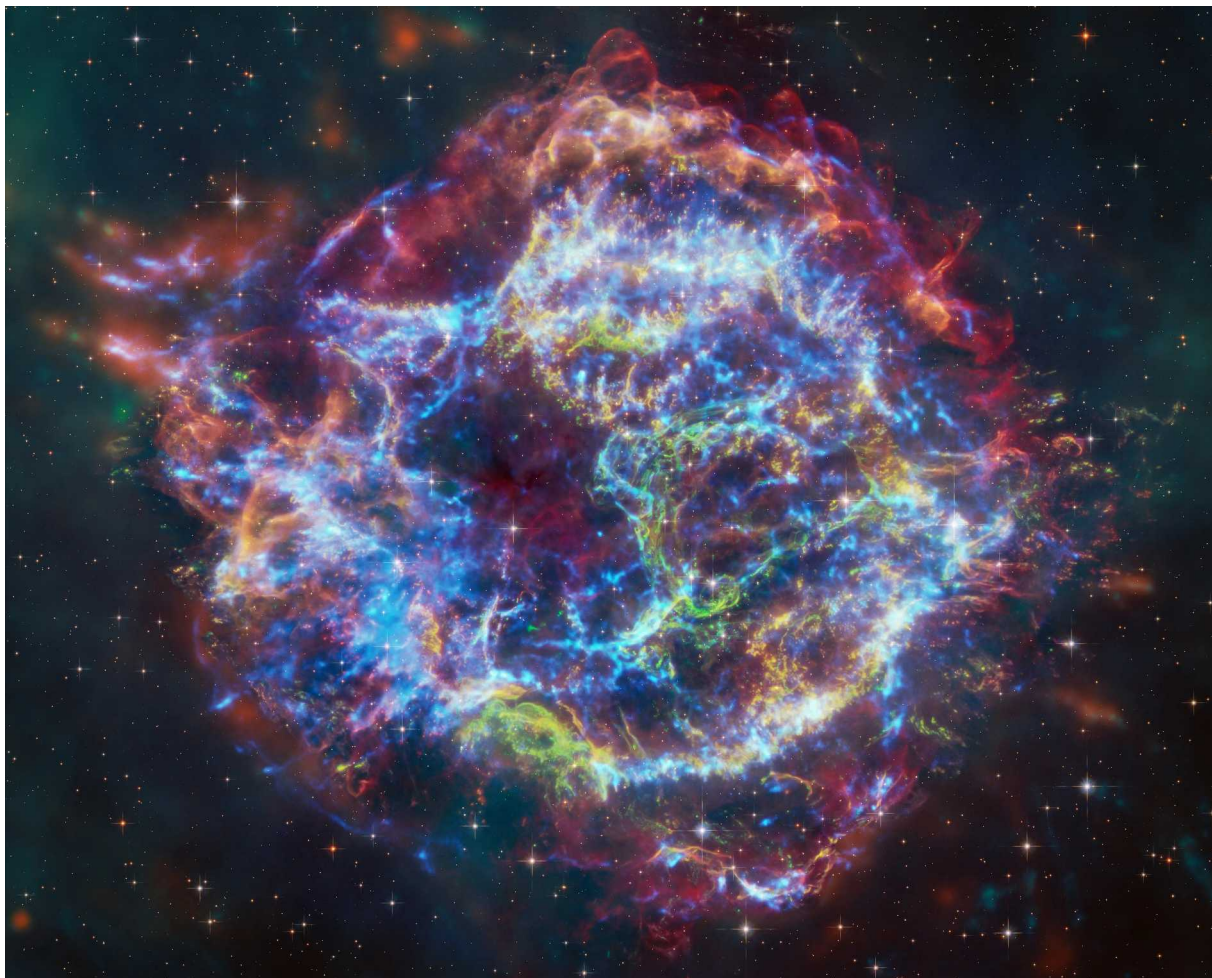
Explorer Scientific Triplet Air-Spaced Apochromatic ED127CF with case for \$2,000 only used twice.



Celestron StarSense Explorer DX with tripod \$75



Celestron tube bag, Diagonal bag and tripod bag used once \$150



Cassiopeia A a supernova remnant by Webb, Chandra, Hubble & Spitzer scopes