



**Monthly Notices
of the
Everglades
Astronomical Society**
Naples, FL
December 1, 2024



Officers: President: Paul Leopold **Treasurer:** Kathy James
Home Page: <https://evergladesastronomicalsociety.org/Home.php>

President's Message

Greetings EAS Members,

Our seasonal members are returning to Naples and some of them attended our November meeting. We welcome them back to sunny southwest Florida. *It's membership renewal time so as a gentle reminder, please forward your dues payment to:*

Kathy James
270 North Cove Drive
Suite 3206
Naples, FL 34110

During our November meeting we brought into focus (pun intended) - the number of members for a new board of directors. We presently have a list of 8 which includes our existing officers. We are considering a new officer position of Vice President. The primary responsibility for the vice president would be arranging monthly talks. If you are interested in serving in this position, please let me know.

There will be a program at Big Cypress Bend Boardwalk in the Fakahatchee Preserve on Saturday December 7th. The boardwalk is located on Tamiami Trail 8 miles southeast of Collier - Seminole State Park. Anyone looking to support this outreach should be there **30 minutes before sunset** which is 5:35 PM.

Best regards,
Paul Leopold
President: The Everglades Astronomical Society

A Note on the Monthly Newsletter

Looking for content for the newsletter! Please submit your notes, articles and images for inclusion by the 25th of this month and we will get them into the next monthly update.

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UPCOMING EAS MEETINGS

Our monthly meetings are the 2nd Tuesday of each month and usually start at 7pm.

December 10, 2024: Time 7:00 – 8:00 pm

Location: North Collier Government Center
2335 Orange Blossom Dr., Naples, FL

January 14, 2025: NOTE THE EARLY START TIME 6:30 – 7:30 pm

Guest Speaker: Dan Mints from the Amateur Astronomers Association of Princeton (AAAP) will discuss setting up his telescope for remote imaging in Texas.

Location: North Collier Government Center
2335 Orange Blossom Dr., Naples, FL

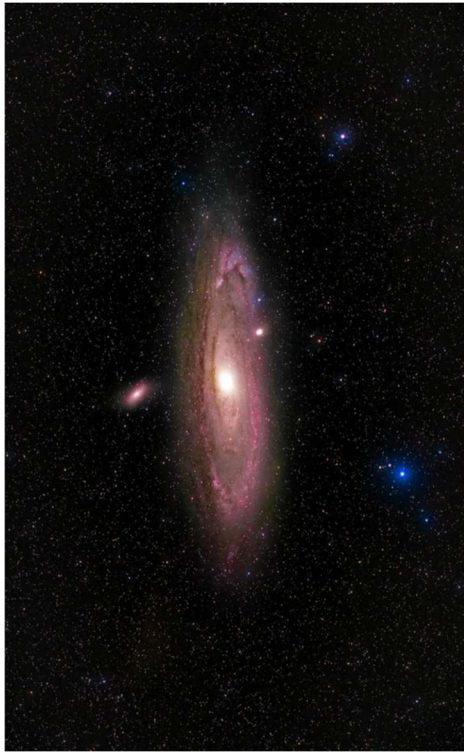


Photo by Dan Mints, AAAP

February 11, 2025 NOTE THE EARLY START TIME, LOCATION TBD

6:30 – 7:30 pm

Guest Speaker: Dr. Mario Motta, retired Cardiologist, amateur astrophotographer, telescope maker, former board member of Dark Sky International, and renowned expert on Light Pollution will discuss Light Pollution and its impact on health.

****All meetings are accessible via ZOOM:

Meeting ID: 349 568 7507

Passcode: telescope

Please do NOT share this info with non-club members.

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CLUB NEWS

EAS 2024-2025 Dues

The fourth quarter is membership renewal season.

Before year end, please bring \$20 to a club meeting or mail your check to:

Kathy James
270 Naples Cove Dr. #3206
Naples, FL 34110

Astrofest 2024 & Chiefland Astronomy Village By John Meggers

In late October, I attended Astrofest 2024 at Chiefland Astronomy Village, and had a great experience there. I definitely recommend it. I estimate attendance was around 80 people or so, and everyone I spoke with seemed to enjoy it. We got lucky and only had only one night that was mostly clouded over. As typical, that's not guaranteed; apparently last year it was quite wet, but you take your chances.

The Chiefland property is about a 5-acre plot on a cul-de-sac almost entirely cleared of trees, about 8 miles south of the town of Chiefland, about 2 hours north of Tampa and an hour west-southwest of Gainesville. A house and very large utility building sit on the rear of the property, along with a couple of observatory domes owned by the property owners. The utility building was used for presentations during the star party, as well as a modest "museum." On the observing field, there's an open-air covered pavilion with picnic tables; a small "clubhouse" building with a couple of bathrooms, a refrigerator and a few small kitchen appliances; plus a separate building with three open-air hot-water showers (basically a small building with no roof). There's 30A RV power around the fence lines of the observing area, I'd estimate at least 30 hookups, probably more. There are no water connections at the RV spots, although there is water available on the property. Around the property are residential houses, some with private observatories, that have been acquired over the years by people interested in astronomy, thus creating the "village." I believe the skies are probably Bortle 3, similar to Big Cypress.

The star party ran from Friday, October 25 to Thursday, October 31. There were presentations on a couple of the days, including lunar geology, astronomy public outreach, solar observing, and building a home observatory. There were a couple of

swap meets and a nice assortment of raffle prizes distributed on one of the days (I wound up with an Optolong L-eXtreme 2" narrowband filter). Conditions were very good and the bugs not too bad (there's apparently not a great deal of standing water in the area, so mosquitoes tend to be more moderate than down here). For the star party, a mobile "toilet trailer" was brought in that provided four nice "powder room" bathrooms, and there was a food truck available several of the evenings. I enjoyed the star party, thought it was well organized and well run, and definitely plan on attending again. (The 2025 dates are October 17-23.) I was able to stay over one additional night by making a small donation to the property, since conditions were going to be good again.

In fact, I'll put in a plug and say the Chiefland Astronomy group (<https://chieflandastro.com>) is available for membership at \$30 per year, which gives you access to the observing field at any time, 365 days a year. I'm likely to sign up because I've been to Kissimmee Prairie Preserve several times, but their astronomy pad is small, and access is in high demand, especially in the Winter months and around New Moon, and I've often found it difficult to reserve a spot when conditions are likely to be favorable. Additionally, my RV is too large for the astronomy pad, so I have to find a time when there are spots available in both the astronomy pad AND the family campground. Finally, the mosquitoes at Kissimmee are pretty bad, much worse than Chiefland. While Chiefland will be another couple of hours drive longer than to Kissimmee (Chiefland is roughly 5 hours north of Naples), you can stay as long as you want, and you won't have to worry about having a reservation, or extending one if you decide to stay longer. So definitely not worth making that drive for one night, but for longer outings, maybe worth it.

Did you know...Starlink **By Rich Sherman**

A recent study conducted by the Netherlands Institute for Radio Astronomy investigated the interference of satellites on radio astronomy. The results reveal that Starlink's newer satellites "emit 32 times brighter unintended radio waves compared the first generation." It goes on to say that, "Compared to the faintest astrophysical sources that we

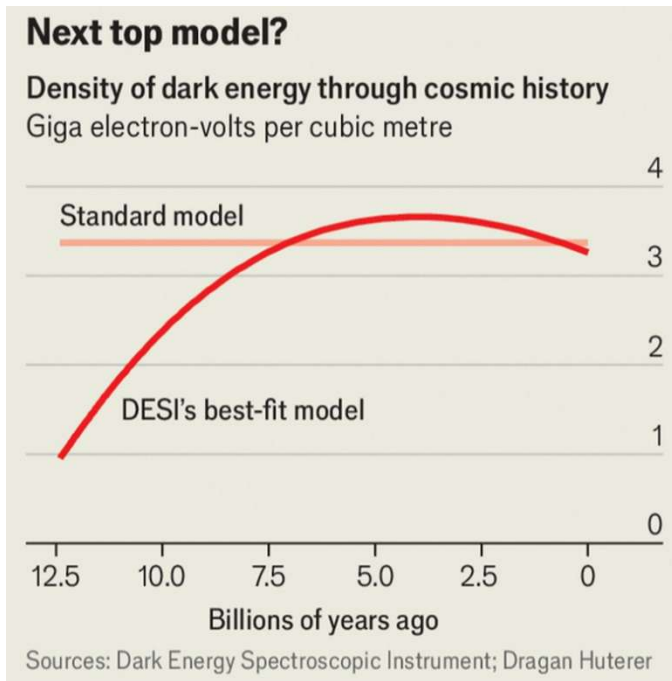
observe... [unintended emission] from Starlink satellites is 10 million times brighter." Perhaps the article was translated from Dutch, but "stronger" might be a better term than "brighter" since we are talking about emissions in radio frequencies rather than visible light. Finally, the study concluded that these second generation Starlink satellites "are a growing threat to the integrity of astronomical observations." You can read the article here: <https://www.astron.nl/starlink-satellites/>

Startling Dark Energy Data **By Rich Sherman**

"The latest analysis is also consistent with your previous findings that give preference to the theory that dark energy is not constant, but dynamic, which is a very important result for cosmic acceleration."
—Dr. Ishak-Boushaki, Physics Professor, University of Texas at Dallas.

There has been remarkable news coming out of the five-year Dark Energy Spectroscopic Instrument (DESI) survey ongoing in Tucson, AZ recently. Earlier this year, startling preliminary results were published at the 2024 American Physical Society's annual meeting. The data shows that dark energy—the unknown force that is accelerating the universe's expansion—has NOT been constant. Dark Energy became denser until about five billion years ago and now it is weakening (see graph).

In late November, another series of papers were published that support the earlier findings. DESI is now in its fourth year of a five-year survey of the cosmos and has collected data from six million galaxies and will have data from approximately 40 million galaxies once complete. While there is more data to be collected and analyzed, it is a profound revelation and one that should not be underestimated. If nothing else, it confirms how little we currently know about Dark Energy, which comprises about 70% of the universe. Moreover, it brings into question the validity of the widely-accepted idea that the universe will end as a cold dark void (aka "Big Freeze") and puts the "Big Rip" (the universe accelerates and all matter is torn apart) and "Big Crunch" (the universe collapses back into a singularity) back on the table.



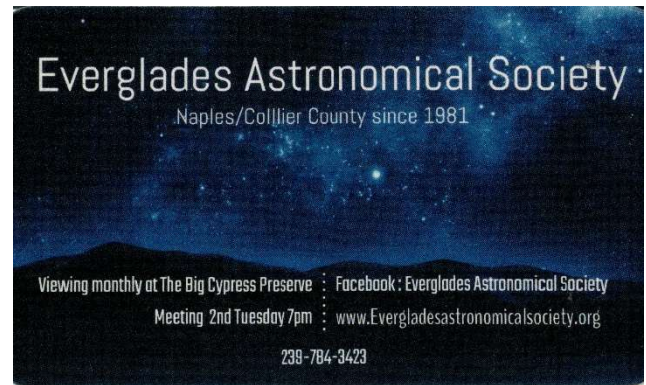
Source: *The Economist*

Big Cypress and Other Viewing

We have the following sungazing/stargazing outreach dates with the public at Collier Seminole. Please bring your telescope and enjoy sharing the skies with our community. Sungazing is typically 2pm-4pm:

December 7, 2024 (**at Big Cypress Bend**)
 December 28, 2024
 January 25, 2025
 February 22, 2025
 March 29, 2025

Don't forget we have "outreach" business cards thanks to Chris & Robyn, including the nifty QR code that connects to our website. Please take them with you and give them away when you are at one of our outreach events. If you need some cards, please ask Chris or Robyn at the next meeting.



Remember, we use the GroupMe app for communications, including coordinating trips to Big Cypress for stargazing and astrophotography. Stay tuned to GroupMe and stay informed about the latest happenings with members.

Planet Viewing By Rich Sherman

Before we get started on the planets, remember the Geminid Meteor shower will be December 13-14 this year. It is a terrible moon cycle, but Gemini will be below the moon on the night of the 13th so we should be able to see some "shooting stars."

Jupiter: Last month we noted that Jupiter will be at opposition on December 7, 2024 and that:

- Double shadow transits by Jupiter's moons Io & Ganymede will occur twice in December. For East Coasters, the opportunity to see the double shadows occurs on 12/23 between 2:47am and 3:51am EST. For our members out west, the

second double shadow transit occurs on 12/30 at 2:37am to 3:54am PST.

- Callisto, the outermost of the four bright Jovian moons passes just above and just below the red planet in December. The first occurs on 12/4 at roughly 2am EST, and then on 12/12 at 4am Pacific Standard Time, and finally on 12/28 at 830pm EST.

Now let's turn to the other planets:

Mars: The Red Planet will be at opposition on January 16, 2025 when Mars is at aphelion (farthest from the sun). This means a bright planet (around magnitude -1.0) but a smaller size (~14 arc seconds at aphelion) than when Mars is at opposition at perihelion (closest to the sun) when it is 25 arcseconds. However, when Mars is at opposition at aphelion it is nice and high, whereas when it is at perihelion it is normally lower in the sky.

Mercury: Well, this planet could be a nifty treat for the early risers, especially just before Christmas. On December 23, 2024, the speedy innermost planet will shine brightly at magnitude -0.2 and rise nearly two hours before sunrise. This offers an excellent chance to see or photograph Mercury if you have not done so. Astrophotographers, if you don't have one already, perhaps treat yourself to a Barlow lens this year as an early Christmas present and catch a couple shots of Mercury.

Venus: This goddess of a planet reaches greatest eastern elongation on January 10, 2025 making it a perfect evening sky target. After the 10th, it will be in its well-known crescent phase. In my experience, Venus' appearance as a "crescent" surprise most people who have never seen her through a telescope and could be a fun target to share during Outreach events. And don't forget a ND filter, since Venus is bright.

Saturn: The rings of Saturn flip hemispheres on March 23, 2025. On that date, the rings will be invisible, or nearly so, offering an unusual view of everyone's favorite planet (excluding Mother Earth of course). With the rings poorly visible for many months, your attention might shift to Saturn's moons (e.g., Titan). We often marvel at Jupiter's moons

when we see them through a telescope, perhaps it is time to give Titan and some of the other larger Saturn moons (e.g., Oberon and Ariel) their fair shake.

Uranus: Personally, I love seeing green-blue Uranus through a telescope. There is something remarkable about viewing a planet nearly 20 astronomical units (AU) from the Sun (Earth, of course, is 1 AU from the Sun by definition). Mike Usher's 20" Dobsonian is a great instrument for viewing Uranus (perhaps a 4.5mm eyepiece or Barlow to approximate it), and on a good "seeing" night you might even catch the faint banding on the planet. Uranus reached opposition on November 17th. For astrophotography, if you have a Barlow lens in your bag, or received one as an early Christmas present this year (see my comments on Mercury), you might as well pop it in and give Uranus a try.

Neptune: Neptune reached opposition on September 21, 2024. It typically shines at a magnitude of -7.8. The best thing I can say to any terrestrial astrophotographers that aren't billionaires: GOOD LUCK. It is more than 30 AU from Earth.

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ASTRO NEWS & NOTES

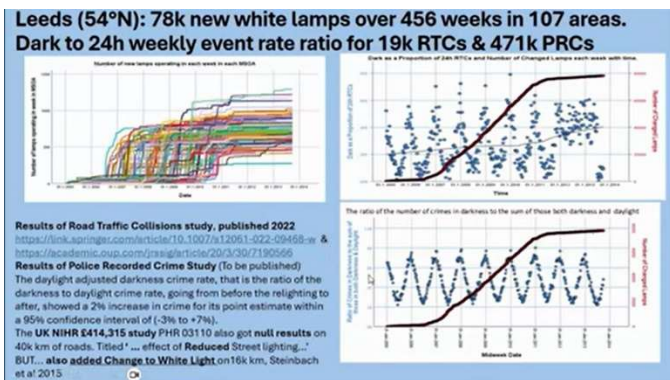
Under One Sky Conference:

Did you attend the virtual two-day Dark Sky conference on 11/8 and 11/9? In case you missed it here are some interesting takeaways.

- At the start of the conference there were 918 people from 53 countries attending "Under One Sky."
- Night vision continues to improve with longer exposure to the dark. While the eyes adapt rapidly during the first 25 minutes or so, our night vision continues to improve for many more hours.
- Among the non-astronomers, and non-birders, the term "smart lighting" resonates better than light pollution, so consider using

that positive term when discussing dark skies with others.

- Dr. Paul Marchant, a statistician discussed a 456-week study on the impact of adding more lights on crime and vehicle crashes in Leeds, UK. The red lines in the graphs below show the deployment of more lights. As lights were installed, there was NO DECREASE IN NIGHT TIME ACCIDENTS as shown by the top graph (the dots show the ratio of night crashes to total crashes). As lights were installed, there was NO DECREASE IN NIGHT TIME CRIMES (the dots show ratio of crimes in the dark to total crimes). Both graphs show obvious seasonality, since summer months have shorter nights (note the V-shaped dot patterns).



<https://www.nps.gov/grca/planyourvisit/grand-canyon-star-party.htm>

- Green Bank Star Quest (West VA): 6/25/2025-6/28/2025, more info at <https://greenbankstarquest.org/>
- Stellafane (Vermont): first week in August, more info at <https://stellafane.org/convention/>

Articles of Interest

JPL announces 5% workforce reduction on November 12, 2024.

https://www.jpl.nasa.gov/news/jpl-workforce-update_-/

Video of Tiny Martian Moon Phobos eclipsing the sun.

<https://www.jpl.nasa.gov/news/nasas-perseverance-captures-googly-eye-during-solar-eclipse/>

Jet Propulsion Labs tests swimming drones:

<https://www.jpl.nasa.gov/news/nasa-ocean-world-explorers-have-to-swim-before-they-can-fly/>

Latest Perseverance Rover image of Jezero Crater.

<https://www.jpl.nasa.gov/news/nasas-perseverance-rover-looks-back-while-climbing-slippery-slope/>

“Star Parties”

- The Southern Cross Winter Star Party takes place January 27, 2025 to February 2, 2025 at the Girl/Boy Scout camps on Scout Key, FL from. Mike Usher has a wealth of information on the event, so please contact him with questions. To register, visit: <https://www.scas.org/winter-star-party/?y=2025>
- Texas Star Party (90 mins. SW of Dallas): 4/24/2025 to 4/27/2025, more info at <https://texasstarparty.org/>
- Grand Canyon Star Party (Grand Canyon N.P.): 6/21-6/28/2025, more info at

ASTRO IMAGES FROM EAS MEMBERS:

For inclusion in future newsletters, please send your images to Rich at RJSherman@hotmail.com. Please include at a minimum:

- the name and/or catalog number of the object (e.g., “M33” or “Triangulum Galaxy”)
- the date of the image
- the location where you took the image
- the telescope you used to take the image

Additional information such as the camera, the number of frames, the filter you used, the number of exposures, and the length of each exposure are also very welcome.



Chuck Dryer sent us these two images. The top photo of M45 was taken recently by Chuck in Michigan. He shot 278 frames at 30 second exposures at ISO 6100 and F/7.1 with his Canon EOS-R camera, and a 500mm lens. He used a Sky Guider Pro Mount with no guiding. He wanted to share the second image as well, which he pulled from a 1975 book on Astronomy that was published by Random House. That image of the Pleiades was taken at the Hale Observatories (in CA or WI). Chuck shared these two images to show how far astronomical gear has improved, noting “You can produce better images [now] from your backyard.”



Northern Lights by Henri Troch
La Londe, southern France
Nikon D7500, 27mm at 1/3 second, ISO 12800



Comet Tsuchinshan-Atlas by Henri Troch
La Londe, southern France
Nikon D7500, 27mm at 1/3 second, ISO 12800



EAS Members Under Setting Venus and the Milky Way, By Rich Sherman
November 23, 2024
Sony A7RV 16mm at f/4.0



M51, The Whirlpool Galaxy by Bob Gurnitz
7/2/2024, Chappaquiddick, MA
Seestar S50
Stacked 315 x 10 second images



Helix Nebula by Robyn Pritchard
November 16, 2024
Seestar S50
Naples, FL

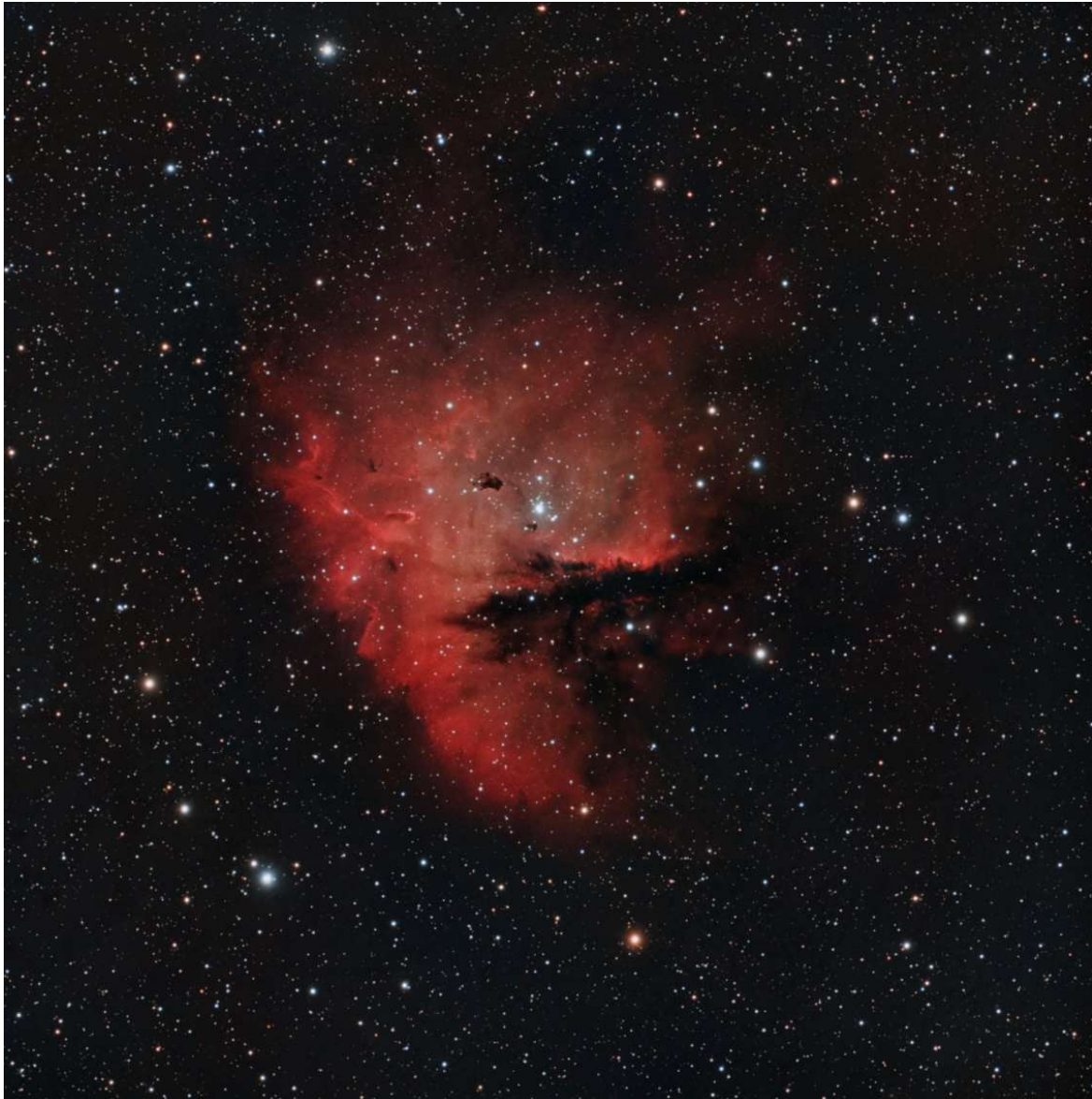


 Seestar S50

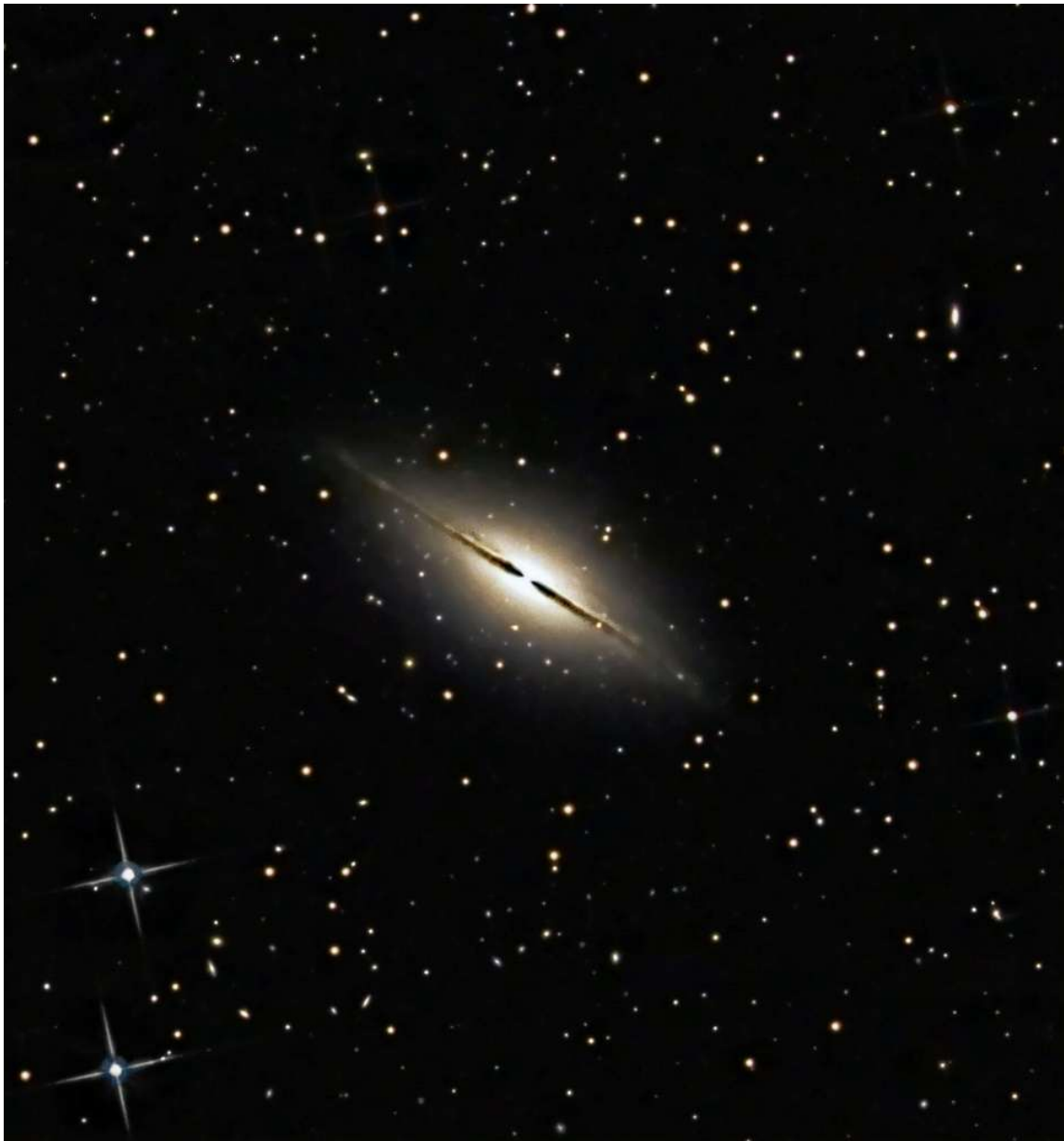
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Moon

The Moon by Robyn Pritchard
November 16, 2024
Seestar S50
Naples, FL



NGC 281, Pacman Nebula by Chuck Pavlich
Tigard, OR
Takahashi FSQ106 at F5
ASI 533mc, Optolong L-pro filter, 115 x 90 sec. subs



NGC7814, the Little Sombrero Galaxy, by Ted Wolfe

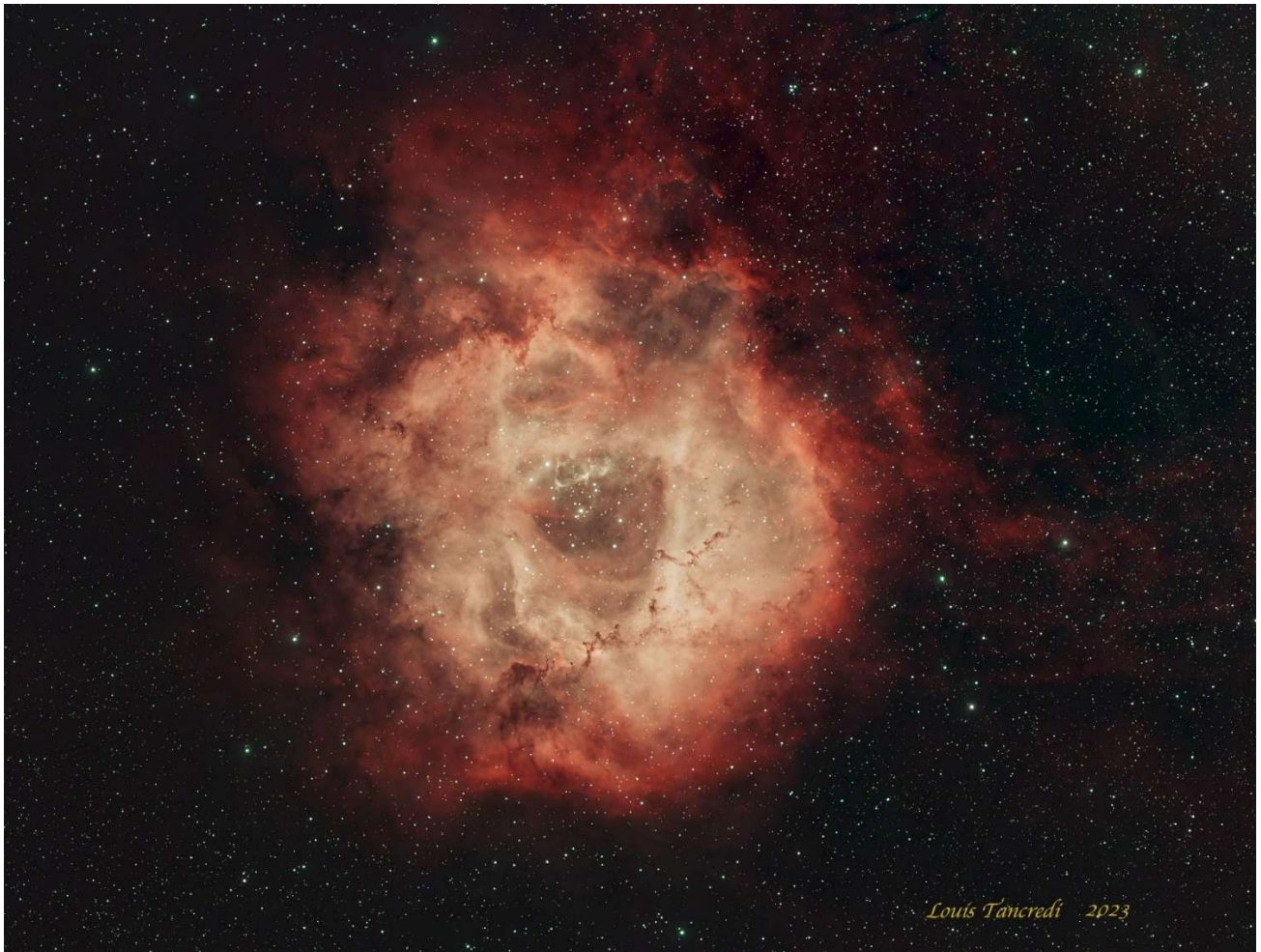
Atacama Desert, Chile

11-hour exposure

PlaneWave CDK 12.5 astrograph

ZWO ASI6200 CMOS.camera

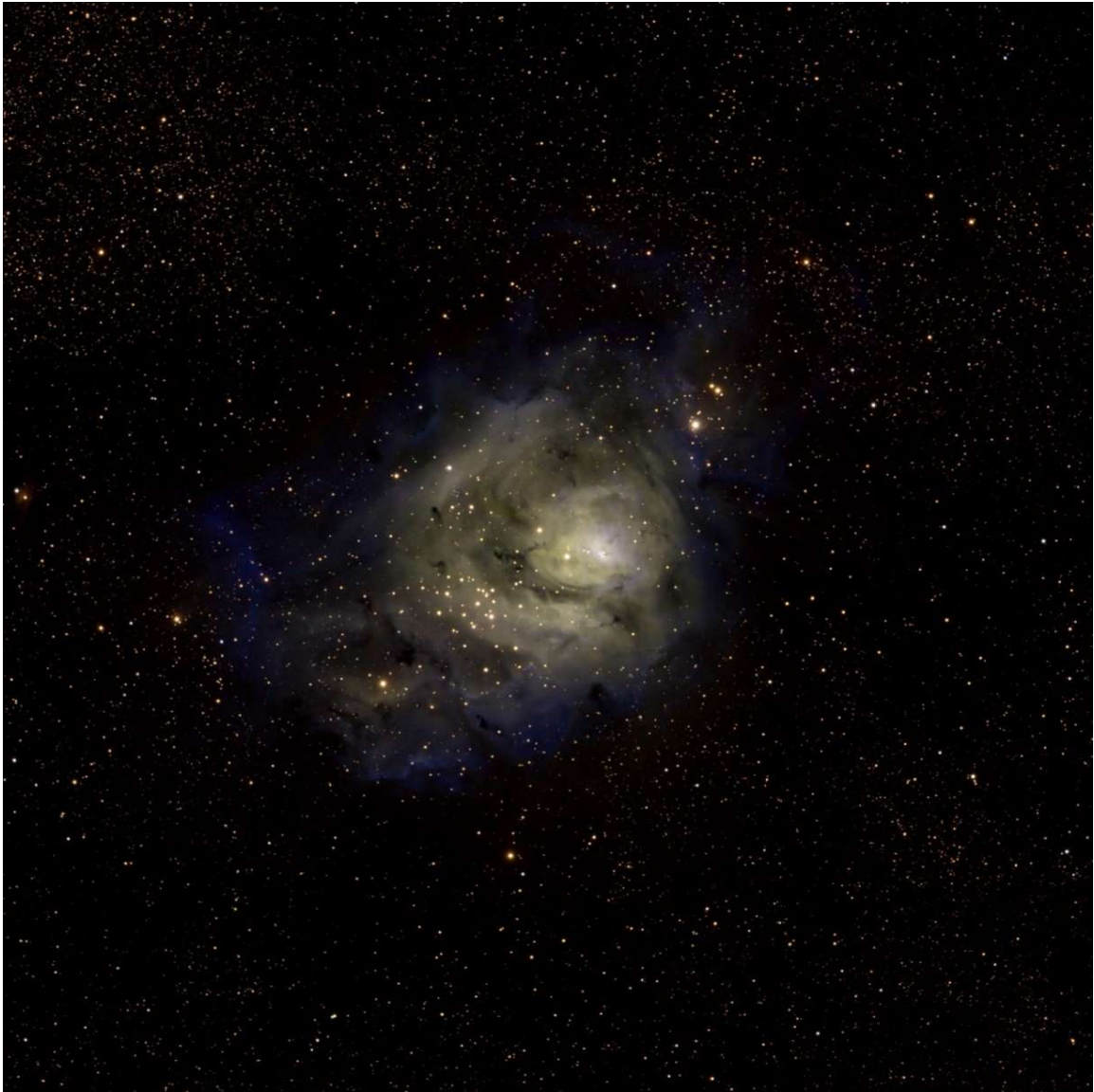
Constellation: Pegasus



The Rosette Nebula by Lou Tancredi
Okeechobee, FL



M33 Triangulum Galaxy by John Pigman
Naples, FL 11/22/2024



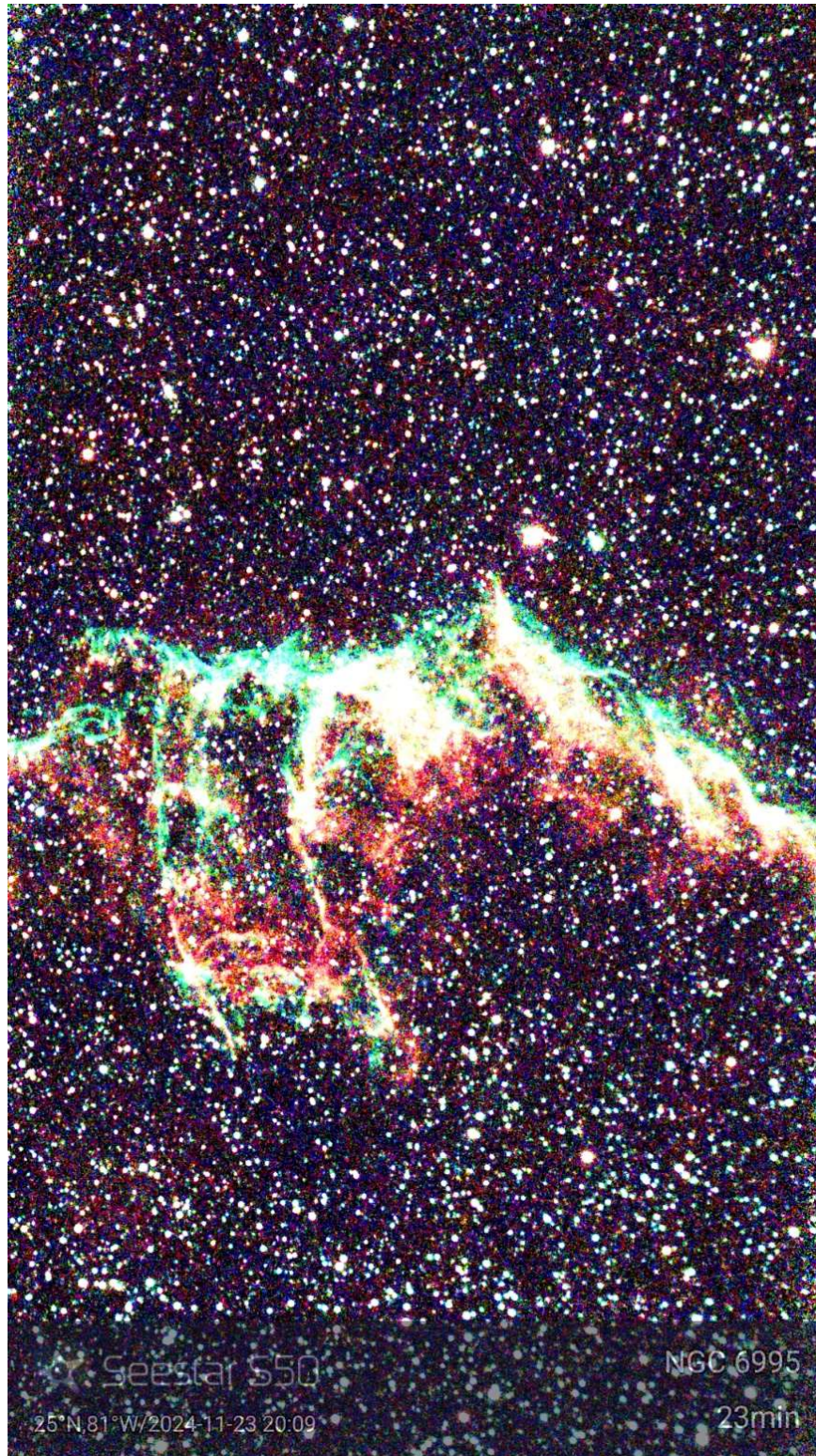
The Lagoon Nebula (M8) by Rich Sherman
Big Cypress, FL 10/25/2024
SkyWatcher 550mm f/5.5 telescope
ZWO 2600 camera, 57 x 2 min frames
CCD Stack and Lightroom



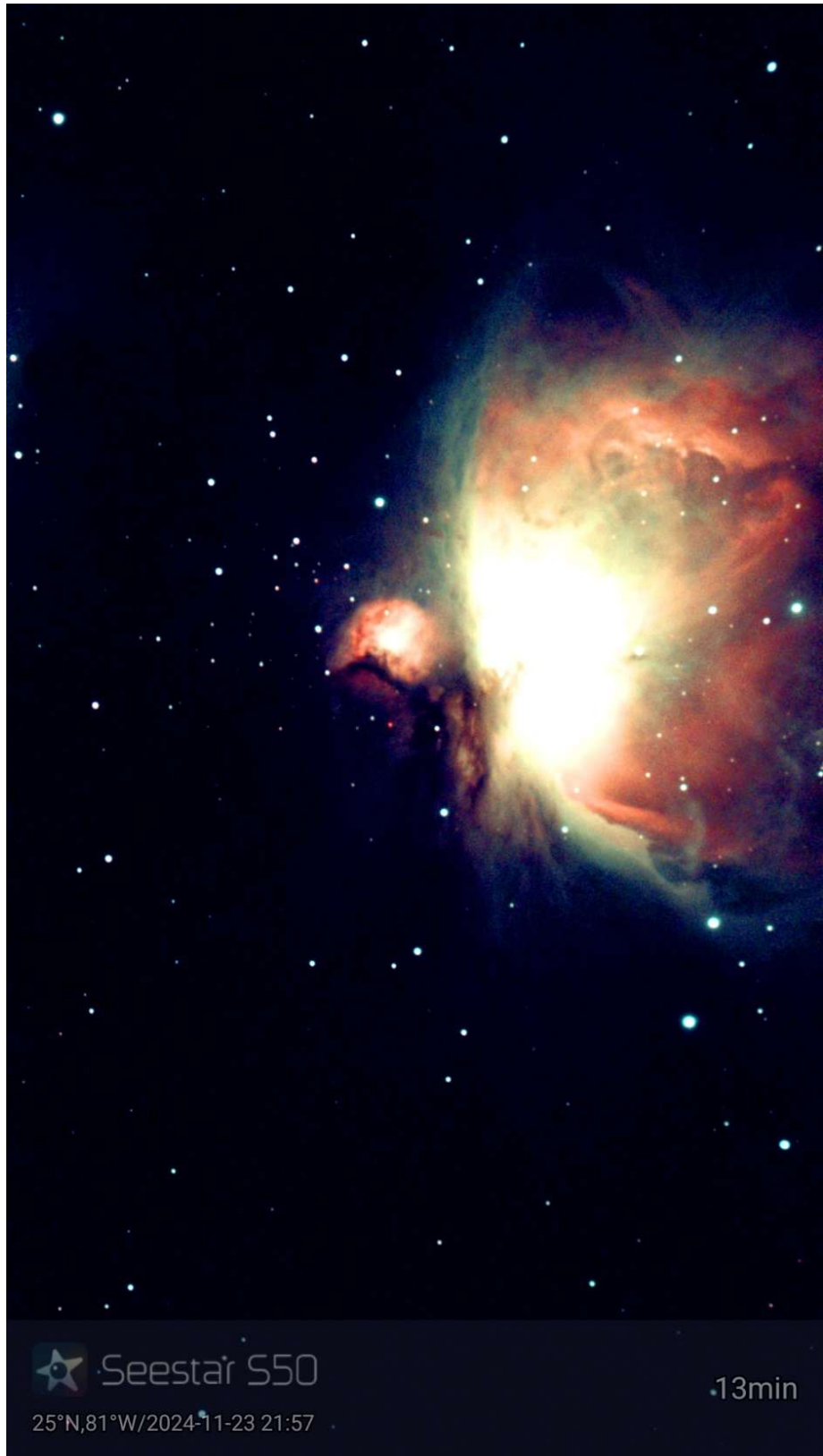
Sculptor Galaxy by John Pigman
Big Cypress, FL, 11/23/2024
Stellarview 80mm ED at F7
60 x 60 sec frames



PacMan Nebula by Robyn Pritchard
Big Cypress, FL 11/23/2024
Seestar S50



Veil Nebula by Howard Wesley
Big Cypress, FL 11/23/2024
Seestar S50

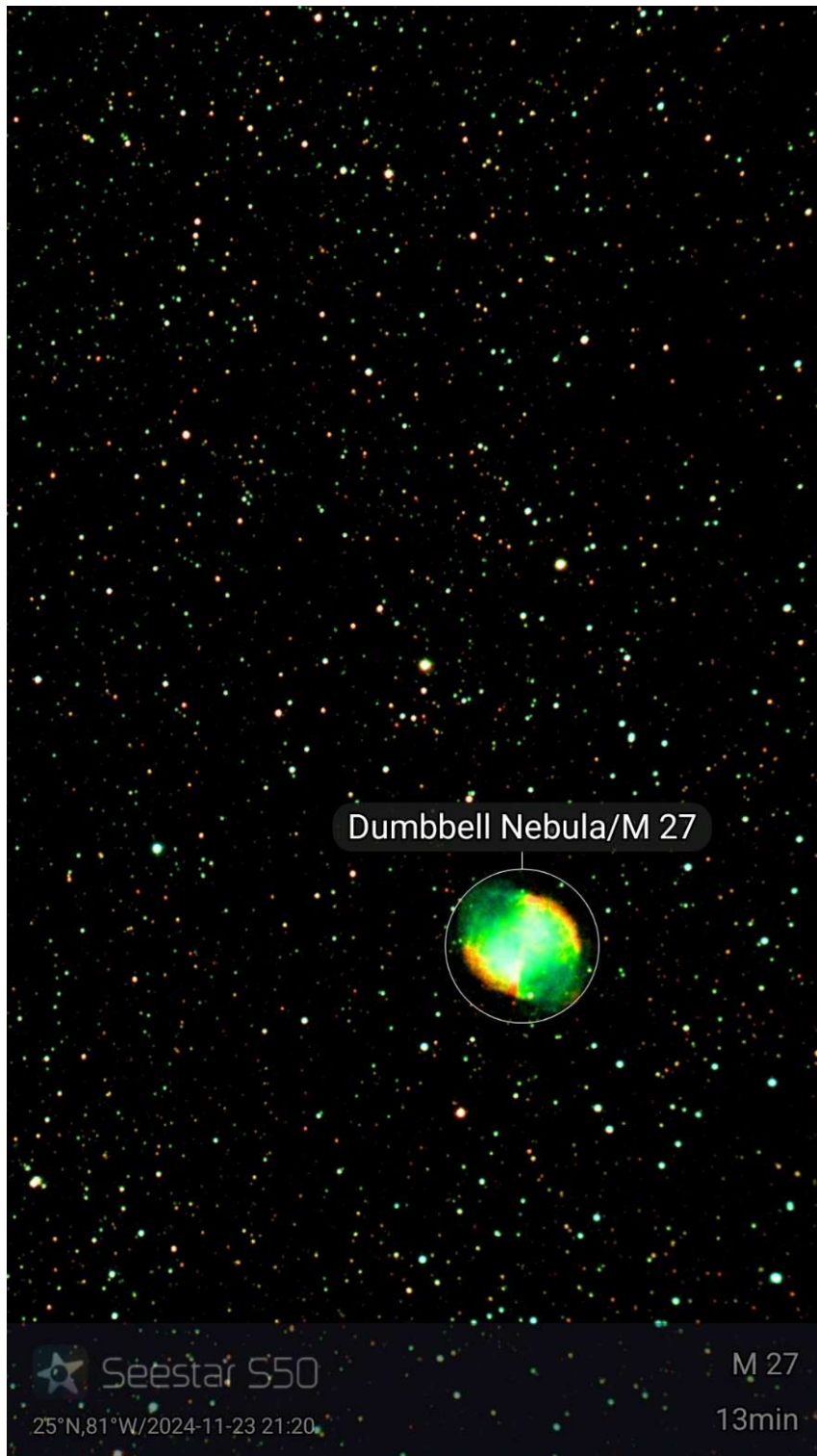


 Seestar S50

13min

25°N,81°W/2024-11-23 21:57

Orion Nebula by Howard Wesley
Big Cypress, FL 11/23/2024
Seestar S50



Dumbbell Nebula by Howard Wesley
Big Cypress, FL 11/23/2024
Seestar S50



The Wizard Nebula by Rich Sherman
Big Cypress, FL 11/23/2024
SkyWatcher 550mm f/5.5 telescope
ZWO 2600 camera, 68 x 2 min frames
CCD Stack and Lightroom