



THE LOS ANGELES ASTRONOMICAL SOCIETY

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THE BULLETIN

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All members are encouraged to contribute articles of interest for publication in The Bulletin.



'Tis the season for the Horsehead Nebula. This dark cloud of dust and gas is a region located in the Orion Molecular Cloud Complex near the star Alnitak, the bright blue star in the image. Taken over the past couple of months at my telescope's location in New Mexico. This is a composite image made from 36 hours of data.

Photo Credit: Brian Paczykowski



Upcoming Virtual Club Events

Board Meeting; Jan. 6, 2021
General Meeting; Jan. 11, 2021
Dark Sky Night—Cancelled

New Contact Info?

If you have recently moved, changed your email address or phone number, please contact our club secretary at

secretary@laas.org

The Great Conjunction - Virtual Star Party

By Shane Winter

So uh...I wound up with a not-so-virtual star party. I went with 2 friends (just two!) out to Saddle Peak over Malibu and drew a bit of a crowd with the telescope setup. Thankfully I brought a large monitor so people could see without getting too close (i didn't want to deal with people coming up to the scope to look through an EP). It was kinda neat...people were totally blown away being able to see rings, bands and moons. Here's the setup (looking at the moon while waiting for dark), some of the dozen or so people that piled up, and a frame (without much processing) of what I had up on the monitor. I have pretty much everything to learn about astrography so I'll be experimenting with stacking what I captured tomorrow (I can already tell I didn't bracket enough).

Fun night in spite of pandemic hell; makes me miss the star parties. Incredible to see those two in the same frame





Check Your Sky's Quality With Orion

By Dave Prosper

Check Your Sky's Quality with Orion! David Prosper Have you ever wondered how many stars you can see at night? From a perfect dark sky location, free from any light pollution, a person with excellent vision may observe a few thousand stars in the sky at one time! Sadly, most people don't enjoy pristine dark skies – and knowing your sky's brightness will help you navigate the night sky.

The brightness of planets and stars is measured in terms of apparent magnitude, or how bright they appear from Earth. Most visible stars range in brightness from 1st to 6th magnitude, with the lower number being brighter. A star at magnitude 1 appears 100 times brighter than a star at magnitude 6. A few stars and planets shine even brighter than first magnitude, like brilliant Sirius at -1.46 magnitude, or Venus, which can shine brighter than -4 magnitude! Very bright planets and stars can still be seen from bright cities with lots of light pollution. Given perfect skies, an observer may be able to see stars as dim as 6.5 magnitude, but such fantastic conditions are very rare; in much of the world, human-made light pollution drastically limits what people can see at night.

Your sky's limiting magnitude is, simply enough, the measure of the dimmest stars you can see when looking straight up. So, if the dimmest star you can see from your backyard is magnitude 5, then your limiting magnitude is 5. Easy, right? But why would you want to know your limiting magnitude? It can help you plan your observing! For example, if you have a bright sky and your limiting magnitude is at 3, watching a meteor shower or looking for dimmer stars and objects may be a wasted effort. But if your sky is dark and the limit is 5, you should be able to see meteors and the Milky Way. Knowing this figure can help you measure light pollution in your area and determine if it's getting better or worse over time. And regardless of location, be it backyard, balcony, or dark sky park, light pollution is a concern to all stargazers!

How do you figure out the limiting magnitude in your area? While you can use smartphone apps or dedicated devices like a Sky Quality Meter, you can also use your own eyes and charts of bright constellations! The Night Sky Network offers a free printable Dark Sky Wheel, featuring the stars of Orion on one side and Scorpius on the other, here: bit.ly/darkskywheel. Each wheel contains six "wedges" showing the stars of the constellation, limited from 1-6 magnitude. Find the wedge containing the faintest stars you can see from your area; you now know your limiting magnitude! For maximum accuracy, use the wheel when the constellation is high in the sky well after sunset. Compare the difference when the Moon is at full phase, versus new. Before you start, let your eyes adjust for twenty minutes to ensure your night vision is at its best. A red light can help preserve your night vision while comparing stars in the printout.

Did you have fun? Contribute to science with monthly observing programs from Globe at Night's website (globeatnight.org), and check out the latest NASA's science on the stars you can - and can't - see, at nasa.gov.

Continued on next page...



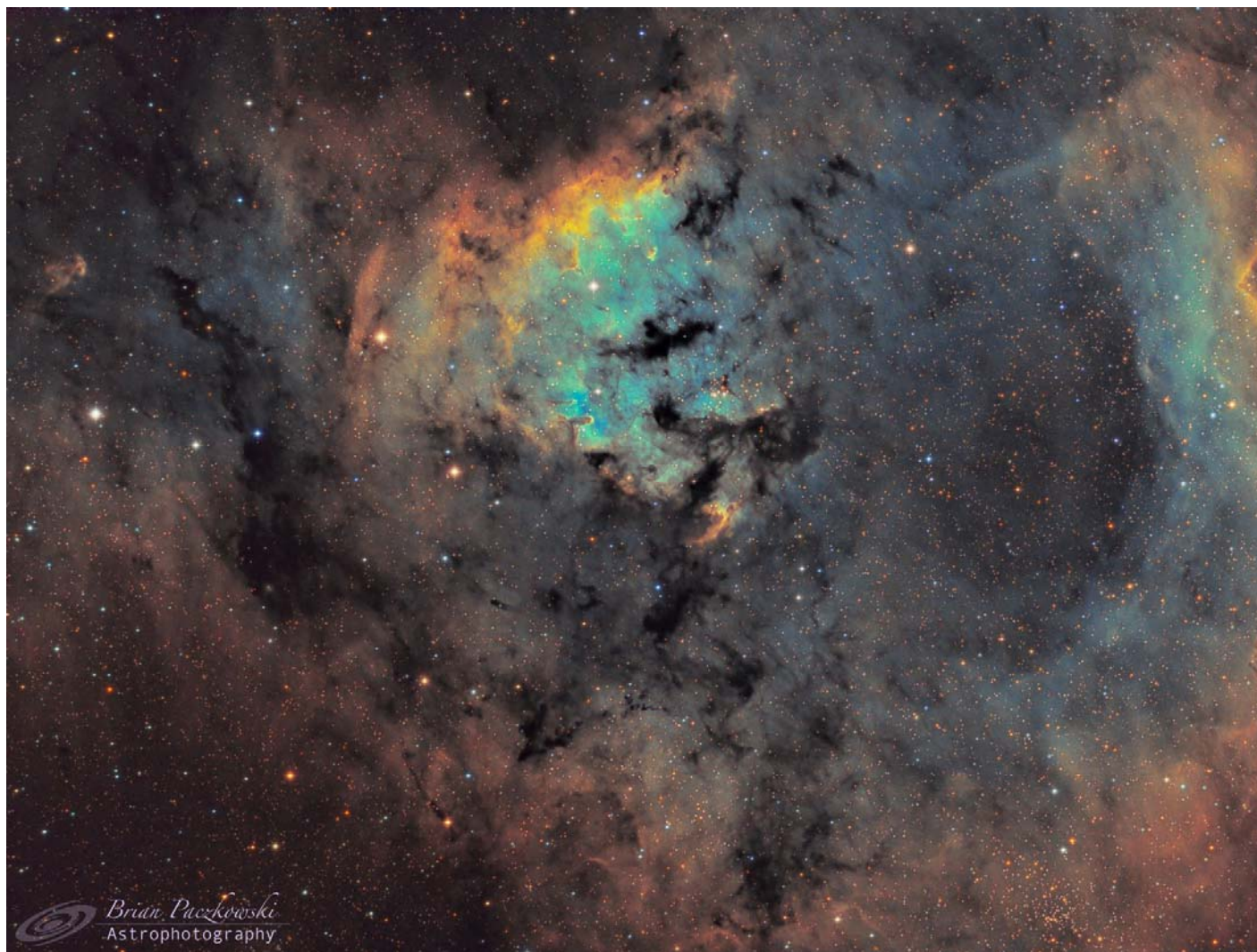
The Dark Sky Wheel, showing the constellation Orion at six different limiting magnitudes (right), and a photo of Orion (left). What is the limiting magnitude of the photo? For most observing locations, the Orion side works best on evenings from January-March, and the Scorpius side from June-August.

This article is distributed by NASA Night Sky Network. The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit nightsky.jpl.nasa.gov to find local clubs, events, and more!



NGC7822

By Brian Paczkowski



NGC7822, a young star forming complex in the constellation of Cepheus. This complex is about 800-1000 parsecs from the Sun and contains pillars of creation-type star formations. This image uses what's called the Hubble palette, associating specific filter data to RGB to bring out more details. A total of 47 hours of data is used to create this composite.

Photo credit: Brian Paczkowski

The Rosette Nebula (NGC2237)

By Brian Paczkowski



The Rosette Nebula (NGC2237). This star-forming H II region is located in the constellation Monoceros. The embedded open cluster of stars were formed from the nebula matter. Taken over the past couple of months at my telescope's location in New Mexico. There are 2 images, one using the Hubble SHO Palette, and another image using Red=Ha*80% +SII*20, Green=OIII*80%+SII*20%, Blue=OIII. Both images add RGB star color to the images. A total of 41 hours of narrowband data and 8 hours of RGB data. Processed in PixInsight. (Televue 76, 10Micron GM2000 HPS II mount, QSI 683 CCD camera with Astrodon LRGB Ha OIII SII filters at -20C)

Photo credit: Brian Paczkowski

January Star Report

By Dave Nakamoto

Jupiter and Saturn are pretty much gone until the second half of this year. Mars is still visible high in the sky. Mercury makes one of its poorest showings on the evening of January 29th, when it is 15 degrees east of the Sun. The Sun sets at 5:20 p.m., and Mercury sets at 6:35 p.m.

Mars continues its prograde motion, moving west to east through the constellations of the Zodiac. It starts each night almost overhead and slightly west of the meridian, the imaginary line going north to south and passing overhead. Mars shrinks from 10 arc-seconds to a little less than 8 arc-seconds. This small size means it will require a telescope capable of magnifications of 150x or more to see anything on its surface. Most observers consider that a size of less than 10 arc-seconds means most amateur telescopes will not see much on Mars, but those with the right camera/telescope combination can still record features even when Mars shrink to around 5 arc-seconds or so, and visual observers with large telescopes can probably match this.

Mercury makes an appearance in our evening skies from the 21st to the 26th, with the best showing around the 23rd and 24th. But this one will be a tough one. Mercury is only 15 degrees from the Sun on the 23rd, and as the Sun sets at 6:54 p.m., Mercury follows close behind, setting at 7:55 p.m.

Venus will not be available in our evening skies until February, and will be low in the sky for most of that month.

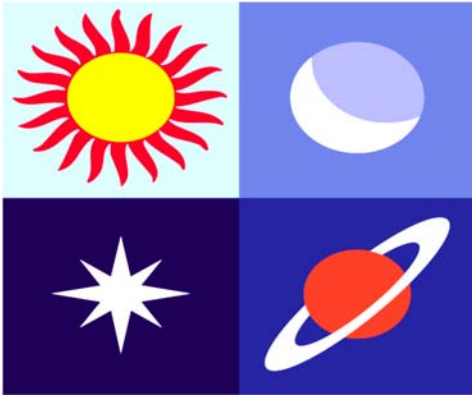
The Quadrantids meteor shower peaks on January 3rd at 6:20 a.m. The Quadrantids are faint, and this year the estimated rate is only 25 meteors per hour or so. Also, the waning gibbous moon will interfere by making the skies bright, regardless of your location. The Quadrantids originate from a point to the east of the end of the Big Dipper's handle, and north of the bright orange star Arcturus. The Moon's phases in January are:

Last Quarter – 6th, New Moon – 12th, First Quarter – 20th, Full Moon – 28th

Sadly, according to my sources, there are no Lunar-X or Lunar-V's visible from southern California this year.

David Nakamoto has been observing the heavens through various scopes since he was in the 5th grade. You can contact Dave by email at: dinakamoto@hotmail.com.



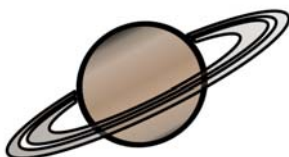


Almanac

January 2, 3 - Quadrantids Meteor Shower

The Quadrantids is an above average shower, with up to 40 meteors per hour at its peak. It is thought to be produced by dust grains left behind by an extinct comet known as 2003 EH1, which was discovered in 2003. The shower runs annually from January 1-5. It peaks this year on the night of the 2nd and morning of the 3rd. The waning gibbous moon will block out most of the faintest meteors this year. But if you are patient, you should still be able to catch a few good ones. Best viewing will be from a dark location after midnight. Meteors will radiate from the constellation Bootes, but can appear anywhere in the sky.

January 13 - New Moon. The Moon will be located on the same side of the Earth as the Sun and will not be visible in the night sky. This phase occurs at 05:02 UTC. This is the best time of the month to observe faint objects such as galaxies and star clusters because there is no moonlight to interfere.



January 24 - Mercury at Greatest Eastern Elongation. The planet Mercury reaches greatest eastern elongation of 18.6 degrees from the Sun. This is the best time to view Mercury since it will be at its highest point above the horizon in the evening sky. Look for the planet low in the western sky just after sunset.

January 28 - Full Moon. The Moon will be located on the opposite side of the Earth as the Sun and its face will be fully illuminated. This phase occurs at 19:18 UTC. This full moon was known by early Native American tribes as the Wolf Moon because this was the time of year when hungry wolf packs howled outside their camps. This moon has also been known as the Old Moon and the Moon After Yule.

Source:

<http://www.seasky.org/astrometry/astrometry-calendar-2021.html>

Additional Links:

Moon Phases Chart for 2021

<https://www.mooninfo.org/moon-phases/2021.html>

Visibility of the Planets

<https://www.nakedeyeplanets.com/visibility.htm#2021>

Outreach Event Advisory

Until further notice, all outreach and public event programs are cancelled due to the current pandemic.

The Garvey Ranch Observatory is closed to the Public.

January 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6 Board Meeting	7	8	9
10	11 General Meeting	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Meet The New Members

Welcome to the LAAS!



Sadaf Khattak

Stijn Vanveerdeghem

David Speaker

Netsuki and Otto Blackwelder

Edwin and Caroline Edwards

Aly Hong

Robert Lujan

LAAS Board Meetings

.Due to the pandemic, all Board Meetings are now held online, live on Zoom. Please check the information posted in the IO Group Forum for any current news related to these meetings. If you wish to attend a board meeting, please send a request to secretary@laas.org for a link to Zoom.

Volunteer Opportunities

Every LAAS member is a volunteer at some point. Some members volunteer to share telescopes with the public, while others tackle administrative duties, help out at our community and public events, or join a club committee. Taking photos at our events and writing articles about events for our club newsletter are great ways to volunteer and become more involved in the LAAS as a member.

HOWEVER, due to Covid-19 restrictions in our area, all outreach events have been cancelled until further notice.

Volunteers are still needed to write articles for our monthly newsletter or share images captured of the night sky. Members are also welcome to come up with new ideas and future activities for the membership which can be shared in Board meetings. If you are artistic and enjoy creating posters or flyers, or printable astro-educational handouts for further star parties, please let us know.

Time To Renew Your Membership?

Please remember to renew your membership once you receive notice from the Club Secretary in your email inbox.

Please send any new contact information to the club secretary at secretary@LAAS.org.



LAAS Outreach Program

The mission of LAAS is to promote interest in and advance the knowledge of astronomy, optics, telescope making and related subjects. In furtherance of its mission, LAAS conducts public star parties and other outreach events that are intended to enhance the public's understanding of astronomy and its enjoyment and appreciation of the beauty and wonders of our universe.



We provide outreach events at local schools, Griffith Observatory, Mt. Wilson Observatory, various state and county parks, and community events.

Join our Outreach team of volunteers today.

Contact Heven Renteria, our Outreach Coordinator at Outreach@LAAS.org



Want to include astronomy outreach at your school's science night or open house? Follow the link below to access the request form:

https://nightsky.jpl.nasa.gov/club-eventrequest.cfm?Club_ID=1344

LAAS Club Swag

LAAS T-SHIRTS, HOODIES, MUGS, AND MORE!

To find new merchandise from our store, please use the following link: <https://www.laas.org/store>

Please note all prices listed are subject to change and include all shipping and handling costs. All items will be shipped directly to the address you provide on your order form.



Please remember all LAAS Outreach activities are postponed due to the Covid-19 pandemic.

Amazon Smiles

The LAAS is now listed on Amazon Smiles. When you purchase any goods on Amazon.com, Amazon will donate a small percentage of the funds they receive from you, back to the LAAS. Here's some information to help bring in funds for our club projects:

What is AmazonSmile?

AmazonSmile is a simple and automatic way for you to support your favorite charitable organization every time you shop, at no cost to you, with the added bonus that Amazon will donate a portion of the purchase price to your favorite charitable organization., such as the LAAS!

Learn more by following this link:

<http://smile.amazon.com/>



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John O'Bryan, Jr.

Astronomy Magazine Discounts

Discounts for astronomy magazines can be found on the internet. Look for the best deals possible. Send a copy of your LAAS membership card with your check or payment to receive a club member discount.

Astronomy magazine As a member of the Night Sky Network, you may use the above link to renew your Astronomy Magazine subscription (or enter a new subscription) at the club discount rate. If this is a renewal, Astronomy Magazine will match your entered name and address and extend your subscription. For inquiries, please contact Astronomy Magazine customer service & sales at 1-800-533-6644.

[Click here to subscribe to Sky and Telescope Magazine.](#)



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Subscribe or renew to the McDonald Observatory's StarDate Magazine and receive a special discount. Go to this page and press "Add to Cart" under the kind of subscription you want: <http://stardate.org/store/subscribe> Then, on the Checkout form, enter "network" in the Coupon Code box.



Club Contact Information

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Secretary: Spencer Soohoo

secretary@laas.org

Outreach Coordinator: Heven Renteria

outreach@laas.org

Club Communications: Andee Sherwood

communications@laas.org

Mt. Wilson Coordinator: Darrell Dooley

mtwilsoncoordinator@laas.org

Bulletin Editor: Andee Sherwood

communications@laas.org

Club Contacts

Club Phone Numbers

LAAS Message Phone:

213- 673-7355 (Checked daily)

Griffith Observatory:

213-473-0800

Sky Report:

213-473-0880

Lockwood Site:

661-245-2106

Not answered, arrange
time with caller.



Outgoing calls – Collect or calling card only.

Follow us on social media by clicking
on one of the images below



Instagram



Find astronomy outreach activities by
visiting NASA's Night Sky Network:

<https://nightsky.jpl.nasa.gov/about.cfm>

YouTube

twitter

**The Los Angeles
Astronomical Society**
 2800 E. Observatory Road
 Los Angeles, CA 90027

Call us for more information
 about our organization and
 outreach program.
 213-673-7355

Visit our web site at
www.LAAS.org

From:
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