



THE LOS ANGELES ASTRONOMICAL SOCIETY

NOVEMBER, 2021
VOLUME 95, ISSUE 11

THE BULLETIN



The Lion Nebula (Sh2-132), a very faint emission nebula located about 10,000 light years away in the constellation Cepheus. The dark dust and gas along with the emission nebula give the impression of the head of a lion and its upper body. This is a narrowband composite image using the Hubble Palette made from a combined 30 hours of data.

Photo Credit: Brian Paczkowski

Upcoming Virtual Club Events

Dark Sky Night: Nov. 6, 2021

Board Meeting; Nov. 3, 2021

General Meeting; Nov. 8, 2021

In This Issue

60 Inch Nights at Mt. Wilson	Page 2
Measure The Night Sky	Pages 3-4
Astronomical Photographs	Pages 5-7
Monthly Sky Report	Page 8
Almanac	Page 9
Calendar of Events	Page 10
Meet the New Members	Page 11
The LAAS Outreach & Club Swag	Page 12
Amazon Smiles & Astro Magazines	Page 13
Club Contacts & Social Media Link	Page 14

All members are encouraged to contribute articles of interest for publication in The Bulletin. Please send your articles and images to:

communications@laas.org

Update Your Contact Information

Please send any contact info changes to the club secretary at

secretary@laas.org.

News - The Garvey Ranch Park Observatory

Garvey Ranch Observatory will be open only to fully vaccinated members with proof of vaccination. Masks are required at all times, indoors and outdoors.

The Public and visitors are not allowed.

60 Inch Nights Schedule

Mt. Wilson Observatory



Session Schedule—2021

The following sessions are now filled!

The LAST Session of the Season!

Saturday November 6th

The dates above are all scheduled on Saturday Nights and are all half-night events.

General Information:

Price per session, per person - \$60.00

There will be 20 people, per session.

-

How to Make a Reservation?

Please contact Darrell Dooley **BEFORE** you pay for your reservation.

Darrell is our Mt. Wilson Coordinator and the ONLY contact available.

Darrell's Email Address:

Mtwilsoncoordinator@laas.org

Darrell will answer all of your questions and concerns.

Reserve your spot by paying by credit cards or PayPal using the following link:

<https://fs30.formsite.com/LAAS/MtWilson/index.html>



Learn more about the 60 Inch Night by visiting Mt. Wilson Observatory's website:

<https://www.mtwilson.edu/60-telescope/>

Measure the Night Sky

By David Prosper

Fall and winter months bring longer nights, and with these earlier evenings, even the youngest astronomers can get stargazing. One of the handiest things you can teach a new astronomer is how to measure the sky – and if you haven't yet learned yourself, it's easier than you think!

Astronomers measure the sky using degrees, minutes, and seconds as units. These may sound more like terms for measuring time - and that's a good catch! – but today we are focused on measuring angular distance. Degrees are largest, and are each made up of 60 minutes, and each minute is made up of 60 seconds.

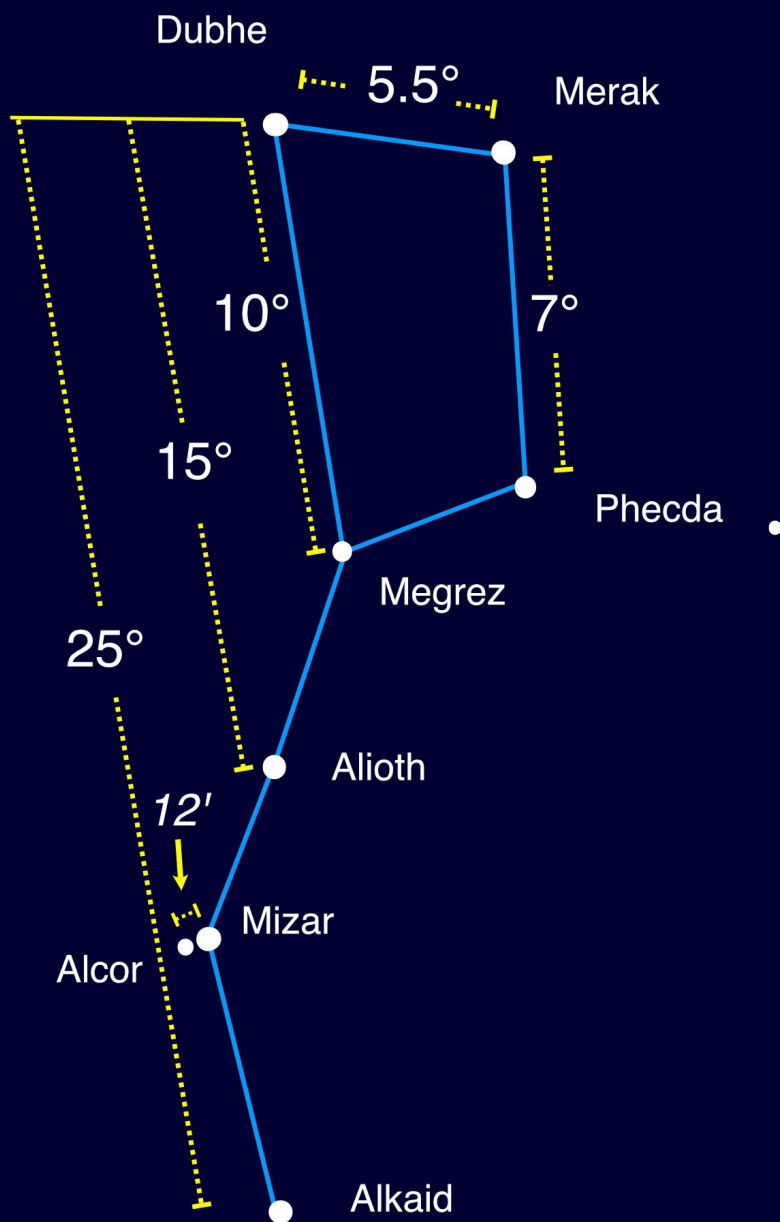
To start, go outside and imagine yourself in the center of a massive sphere, with yourself at the center, extending out to the stars: appropriately enough, this is called the celestial sphere. A circle contains 360 degrees, so if you have a good view of the horizon all around you, you can slowly spin around exactly once to see what 360 degrees looks like, since you are in effect drawing a circle from inside out, with yourself at the center! Now break up that circle into quarters, starting from due North; each quarter measures 90 degrees, equal to the distance between each cardinal direction! It measures 90 degrees between due North and due East, and a full 180 degrees along the horizon between due North and due South. Now, switch from a horizontal circle to a vertical one, extending above and below your head. Look straight above your head: this point is called the zenith, the highest point in the sky. Now look down toward the horizon; it measures 90 degrees from the zenith to the horizon. You now have some basic measurements for your sky.

Use a combination of your fingers held at arm's length, along with notable objects in the night sky, to make smaller measurements. A full Moon measures about half a degree in width - or 1/2 of your pinky finger, since each pinky measures 1 degree. The three stars of Orion's Belt create a line about 3 degrees long. The famed "Big Dipper" asterism is a great reference for Northern Hemisphere observers, since it's circumpolar and visible all night for many. The Dipper's "Pointer Stars," Dubhe and Merak, have 5.5 degrees between them - roughly three middle fingers wide. The entire asterism stretches 25 degrees from Dubhe to Alkaid - roughly the space between your outstretched thumb and pinky. On the other end of the scale, can you split Mizar and Alcor? They are separated by 12 arc minutes - about 1/5 the width of your pinky

Keep practicing to build advanced star-hopping skills. How far away is Polaris from the pointer stars of the Big Dipper? Between Spica and Arcturus? Missions like Gaia and Hipparcos measure tiny differences in the angular distance between stars, at an extremely fine level. Precise measurement of the heavens is known as astrometry. Discover more about how we measure the universe, and the missions that do so, at nasa.gov.



Measure the Sky with the Big Dipper



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!

Astronomical Photographs

By Pablo Lewin

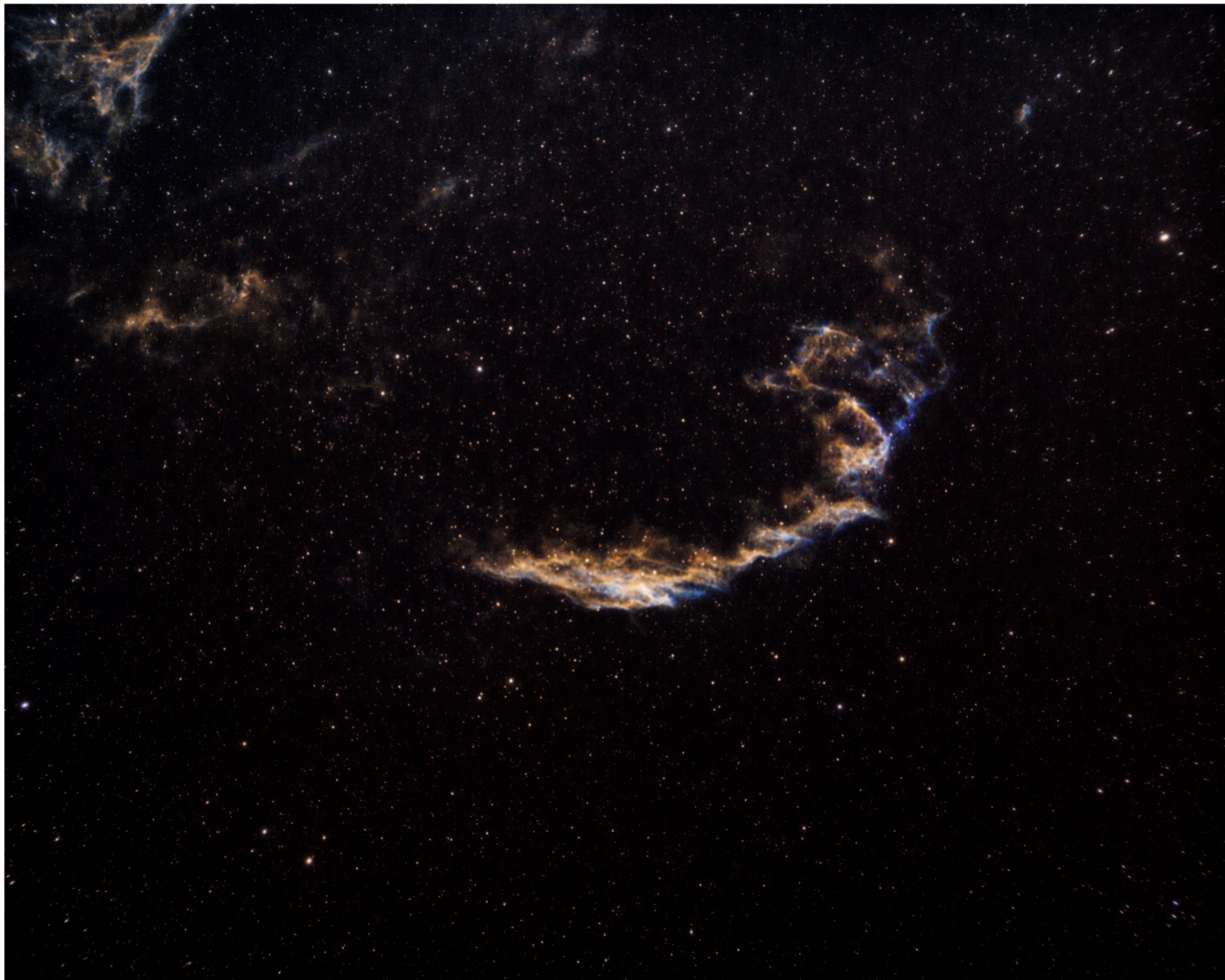
The Maury Lewin Astronomical Observatory

Glendora CA. USA

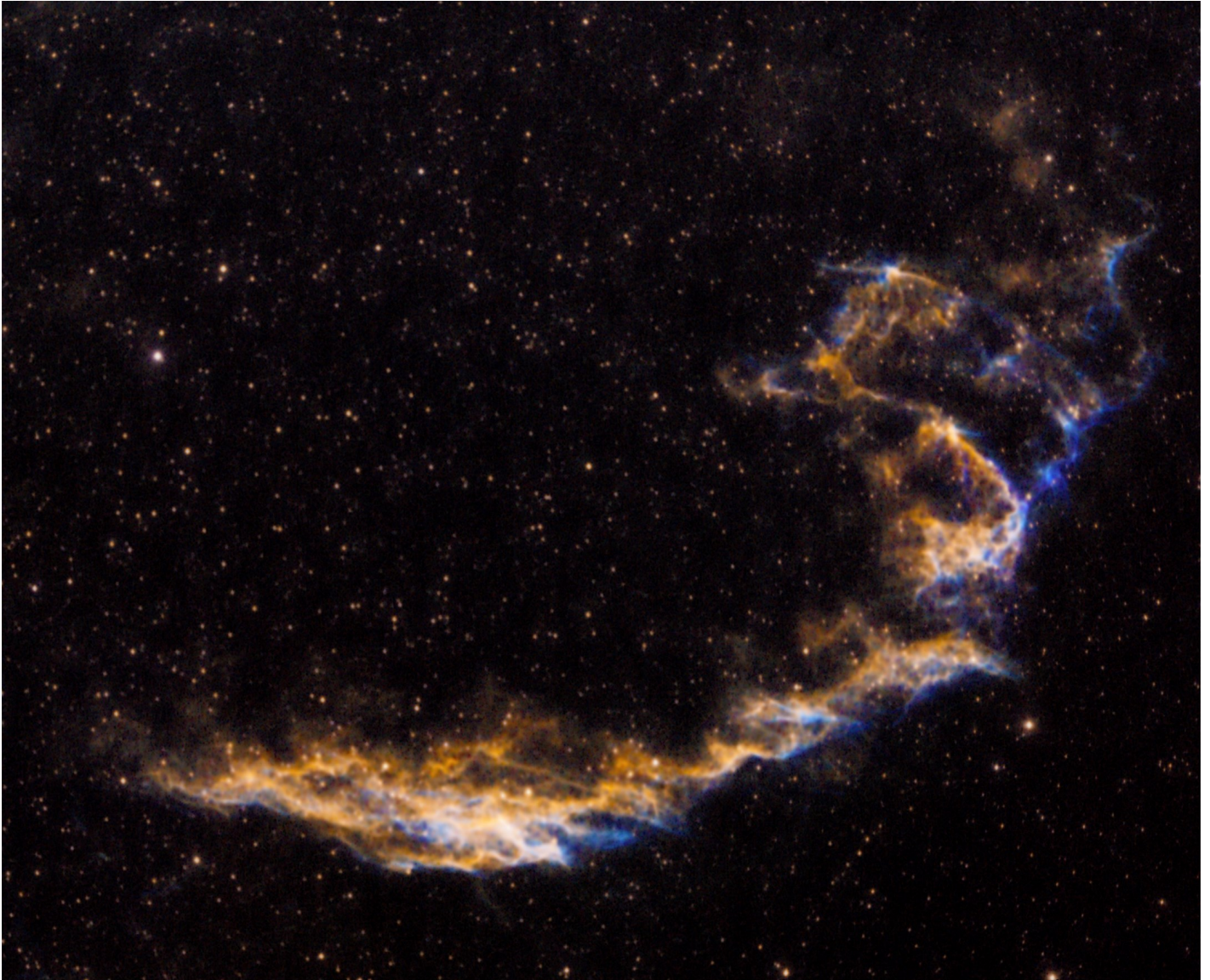
Here are a couple of astronomical pictures I took in the last few days with a small William Optics Z61 (for the Veil Nebula only) and the Celestron C-14 edge HD for the NGC7023. The Veil used narrow band filters and the Hubble Palette and for the NGC7023 I used LRGB filters.



NGC7023 (Iris Nebula) at the MAURY LEWIN ASTRONOMICAL OBSERVATORY ON 10/04/2021



The Veil Nebula at the MAURY LEWIN ASTRONOMICAL OBSERVATORY on October 1st 2021



The Veil Nebula at The Maury Lewin Astronomical Observatory 10/01/2021

Monthly Sky Report

By Dave Nakamoto

Daylight Saving Time ends on Sunday, November 7th, at 2:00 a.m. All clocks must be set back one hour. We switch from Daylight Saving time, PDT, to Standard time, PST.

The Leonid meteor shower peaks on Tuesday, November 16 and through to the morning of November 17. The shower is named after the constellation of Leo the Lion, where the meteors appear to originate. They usually produce ten to twenty meteors per hour with many bright meteors. Unfortunately, this year the nearly full moon will interfere with observations.

A nearly total eclipse of the moon occurs on the night of Thursday, November 18, through to the early morning hours of the 19th. The moon enters the umbra at 11:19 p.m., PST, and finally leaves the umbra at 2:47 a.m., PST, on the 19th. Maximum eclipse will occur at 1:03 a.m., PST, on the 19th.

Mars passes behind the sun during all of November and is too close to the sun to be observed. It will reappear in the morning skies starting in late November.

Mercury starts the month in the morning sky. On the 1st, Mercury rises at 4:53 a.m., PDT, and the sun rises at 7:13 a.m., PDT. From the next week onwards, Mercury will be too close to the sun and cannot be observed. Do not observe any planet when the sun is in the sky, for the danger to the eyes is great.

Venus is low in the southwest and about 20 degrees above the horizon in the evening. Venus is slowly approaching the earth; its size slowly increases from 26 arcseconds to 39 arcseconds, while the amount of its disk that is illuminated decreases from 48 percent, to 29 percent.

Saturn is also in the evening sky. It sets at 11:54 p.m., PDT, on the 1st and at 9:06 p.m., PST, on the 30th. The planet is low towards the southwest.

Jupiter is to the east of Saturn. It sets at 1:12 a.m., PDT, on the 1st and at 10:26 p.m., PST, on the 30th. It also appears low towards the south.

For those with telescopes and star atlas apps or charts, **Uranus** is at mag +5.7 in the constellation Aries the Ram. It is available for observation almost all night long. On the 15th, Uranus is at Right Ascension 2^h 38^m 53^s, Declination +15° 2' 27". The planet is only 3.8 arcseconds wide, so you'll need a telescope with a magnification of 150x to see its diminutive disk.

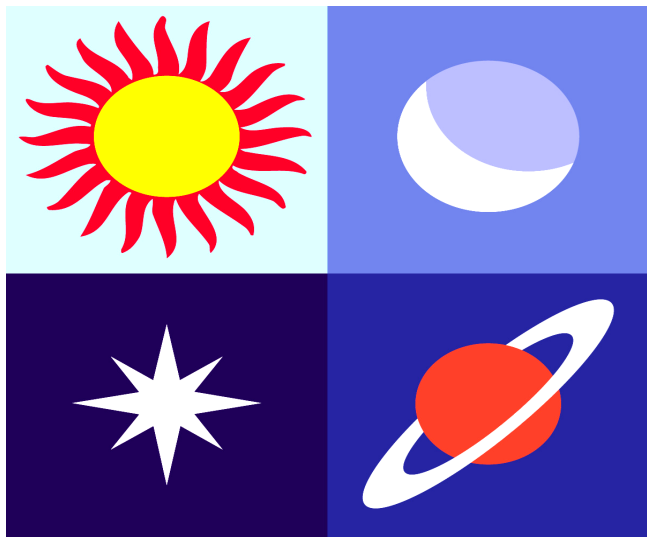
The same applies to **Neptune**, although it's tougher to find because it is much fainter than Uranus at mag. +7.9, approximately six times fainter, and much smaller with a disk only 2.3 arcseconds wide. It is in the constellation Aquarius the Water Bearer. On the 15th, Neptune is at Right Ascension 23^h 25^m 41^s, Declination -4° 57' 34".

For both Uranus and Neptune, you might recognize them even if you don't see a disk by remembering the following. Both planets will be an unusual greyish green color, although the color will be pale. They also will not twinkle as the stars do. Finally, even at low magnifications, you might get the impression that they are not pinpoints of light.

The Moon is new on the 4th, at first quarter on the 11th, is full on the 19th, and at last quarter on the 27th.

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

November 4 - 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 21:15 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.

November 4, 5 - Taurids Meteor Shower. The Taurids is a long-running minor meteor shower producing only about 5-10 meteors per hour. It is unusual in that it consists of two separate streams. The first is produced by dust grains left behind by Asteroid 2004 TG10. The second stream is produced by debris left behind by Comet 2P Encke. The shower runs annually from September 7 to December 10. It peaks this year on the night of November 4. The new moon will leave dark skies this year for what should be an excellent show. Best viewing will be just after midnight from a dark location far away from city lights. Meteors will radiate from the constellation Taurus, but can appear anywhere in the sky.



Source:

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

November 5 - Uranus at Opposition. The blue-green planet will be at its closest approach to Earth and its face will be fully illuminated by the Sun. It will be brighter than any other time of the year and will be visible all night long. This is the best time to view Uranus. Due to its distance, it will only appear as a tiny blue-green dot in all but the most powerful telescopes.

November 17, 18 - Leonids Meteor Shower. The Leonids is an average shower, producing up to 15 meteors per hour at its peak. This shower is unique in that it has a cyclonic peak about every 33 years where hundreds of meteors per hour can be seen. That last of these occurred in 2001. The Leonids is produced by dust grains left behind by comet Tempel-Tuttle, which was discovered in 1865. The shower runs annually from November 6-30. It peaks this year on the night of the 17th and morning of the 18th. Unfortunately the nearly full moon will dominate the sky this year, blocking all but the brightest meteors. 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 Leo, but can appear anywhere in the sky.

November 19 - 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 08:59 UTC. This full moon was known by early Native American tribes as the Beaver Moon because this was the time of year to set the beaver traps before the swamps and rivers froze. It has also been known as the Frosty Moon and the Dark Moon.

November 19 - Partial Lunar Eclipse. A partial lunar eclipse occurs when the Moon passes through the Earth's partial shadow, or penumbra, and only a portion of it passes through the darkest shadow, or umbra. During this type of eclipse a part of the Moon will darken as it moves through the Earth's shadow. The eclipse will be visible throughout most of eastern Russia, Japan, the Pacific Ocean, North America, Mexico, Central America, and parts of western South America. ([NASA Map and Eclipse Information](#))

November 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3 Board Meeting	4	5	6 Dark Sky Night 60 Inch Night
7	8 General Meeting	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25 Thanksgiving Holiday	26	27
28	29	30				



Meet The New Members

Welcome to the LAAS!



Fausto Rodriguez

Enedina Gonzalez

Mary Ann Weyman and Andrew Tapper

Varun Sharma and Family

Nicolas Andrews and Family

Nasrat Raouf and Elsa Saldana

Ponthon Pyronneau

Brian Elerding

Zijian Qiu

Chengjie Chen

James Martin and Family

Donald Pedro, Jr. and Family

Kevin Kelly

Kevin Leroy

Alyssa Petersen

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 always welcome 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/>



Disclaimer: The Los Angeles Astronomical Society, Inc. is a public charity, as defined by Internal Revenue Code Section 501(c)(3) and all contributions to the Society are deductible for Federal and State Income tax purposes. **The Society does not endorse Amazon.com or any of its business practices**, but we are registered with Amazon Smile and will accept contributions from that program. If you are an Amazon customer and would like to have part of the proceeds from your purchase returned to the Society as a contribution, please go to <https://smile.amazon.com/> when you are shopping on Amazon and select Los Angeles Astronomical Society under the caption: "Or pick your own charitable organization." A percentage of you purchases will be donated to the Society to fund its educational and outreach programs.

John O'Bryan, Jr.

Treasurer

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.](#)



[Join the Astronomical Society of the Pacific](#) and help support the cause of advancing science literacy through engagement in astronomy. Member benefits include a **subscription to the online Mercury Magazine**, published quarterly, and **Astronomy Beat**, a monthly on-line column written by "insiders" from the worlds of astronomy research and outreach.

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

President: Curtis Byrom

Cbyrom484@yahoo.com

Vice President: Alecia Hurst

hurst.alecia@gmail.com

Treasurer: John O'Bryan, Jr.

treasurer@laas.org

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



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