The Los Angeles Astronomical Society

THE BULLETIN

September, 2021
Volume 95, Issue 09

Butterfly Nebula (IC1318). A piece of the nebulous region around the supergiant Gamma Cygni (Sadr) in the constellation Cygnus located about 4000 light years away. The monsoon season continues in New Mexico but I was able to capture some data on this nebula. This is a composite image made from a total of 29 hours of data.

Photo Credit: Brian Paczkowski

In This Issue

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

Upcoming Virtual Club Events

Dark Sky Night: Sept. 4th.

Board Meeting; Sept. 8th.

General Meeting; Sept. 13th.

Update Your Contact Information

Please send any contact info changes to the club secretary at

secretary@laas.org.

60 Inch Nights Schedule

Mt. Wilson Observatory

Session Schedule—2021

Saturday September 4th

Saturday October 9th

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

MOUNT WILSON OBSERVATORY

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

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

Joshua Tree Night Sky Festival 2021

A Community Event

The Joshua Tree Night Sky Festival
Dates: September 4-5, 2021

The Night Sky Festival is a two-day event that celebrates Joshua Tree National Park's night sky. This annual all-day event includes activities for all ages. In the morning, visit Sky's the Limit Observatory for a guided tour around the Orrery, a scale model of the solar system that is large enough to walk around and through. While there, take a guided walk on a wilderness or hiking trail with docents explaining the plants, animals and geology of our special environment. Stop at the solar telescope for a close-up look of the sun. Youth can participate in astronomy themed crafts.

The afternoon presents a variety of astronomy lectures by knowledgeable presenters. Attendees can stop at the night sky "selfie" photo booth, and a variety of information tables including the International Dark-Sky Association (IDA) and other supporting organizations. A highlight of the events is the Night Star Party where spectacular views of our night sky are abundant. Through our 20 telescopes with astronomers, listen as these experts explain what you are seeing. Enjoy live music during the viewing. This year adds an exciting selection of family-friendly activities on Sunday too...details to come! **Watch for ticket sales beginning July 1, 2021.**

This annual event is a fundraiser brought to you by:

Sky's the Limit Observatory & Nature Center
Joshua Tree Residential Education Experience (JTREE)

Our sponsors include:

City of 29 Palms
29 Palms Tourism

Plan a weekend getaway, see the Night Sky, the National Park and appreciate the Joshua Tree Gateway Communities with a unique blend of food, accommodations and sights you will not forget.

Laarn more here: https://www.skysthelimit29.org/night-sky-festival.html

For more information, contact Sky's The Limit at 760-490-9561

NSN Webinar: Prepare for International Observe the Moon Night 2021

Date:

Wednesday, 9/8/2021

Time:

6:00 PM - 7:00 PM

Join the NASA Night Sky Network on **Wednesday, September 8** at 6:00pm Pacific Time (9:00pm Eastern) to hear Andrea Jones help folks prepare for this year's activities for **International Observe the Moon Night.**
View here: https://www.youtube.com/watch?v=WhDNyHLGqps

International Observe the Moon Night is a time to come together with fellow Moon enthusiasts and curious people worldwide. Everyone on Earth is invited to learn about lunar science and exploration, take part in celestial observations, and honor cultural and personal connections to the Moon. This year, International Observe the Moon Night will take place on Saturday, September 26. We have made significant updates to our website and our resource collection in 2020 to accommodate more individual, small group, and virtual participation in this year's event.

Come learn more about the program, and how you and your club or institution can participate. We'll highlight program resources including a new event Moon map and Moon viewing guide, advertising materials, and social media shareables. We'll highlight some recommended hands-on activities, offer tips and resources for hosting virtual events – and for evaluating them. And, we'll discuss opportunities to stay connected throughout the year. You can ask questions of the International Observe the Moon Night leadership team and of fellow current or prospective event hosts, and share your ideas for your International Observe the Moon Night event.

About Andrea Jones
Andrea Jones is a planetary geologist and the Public Engagement Lead of the Solar System Exploration Division at NASA's Goddard Space Flight Center. She shares NASA planetary science research and discoveries with national and international audiences and connects division scientists to, and supports them in, public engagement opportunities. Andrea is the Public Engagement Lead for NASA's Lunar Reconnaissance Orbiter mission and Director of International Observe the Moon Night.

#ObserveTheMoon on Social Media
Hear updates, share pictures and highlights from your event, and connect to fellow lunar enthusiasts around the world through @NASAMoon and #observethemoon on Twitter and the International Observe the Moon Night page on Facebook.

Registration

Night Sky Network members can register in advance for this webinar on the Outreach Resource page for this event (login required):

Further Information and Additional Viewing Options

The event will also be streaming live on YouTube, but please note that questions asked over the NSN-members-only Zoom Q&A will be prioritized.
Link: https://www.youtube.com/watch?v=WhDNyHLGqps

Catch Andromeda Rising

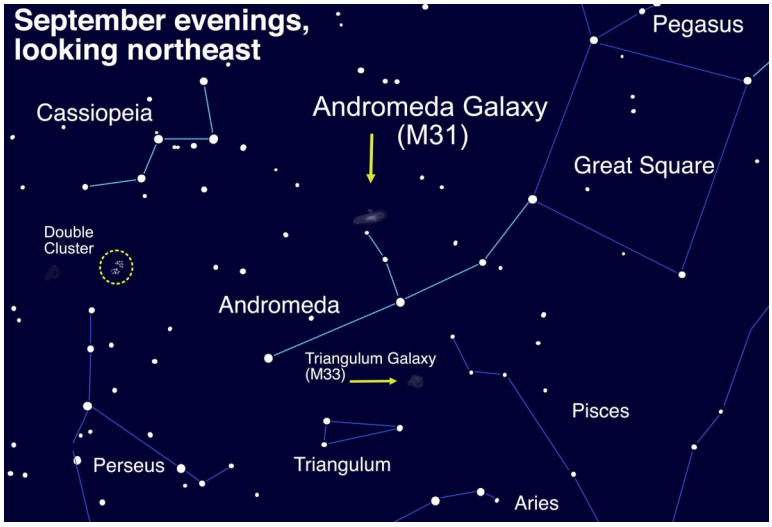
By David Prosper

If you're thinking of a galaxy, the image in your head is probably the Andromeda Galaxy! Studies of this massive neighboring galaxy, also called M31, have played an incredibly important role in shaping modern astronomy. As a bonus for stargazers, the Andromeda Galaxy is also a beautiful sight.

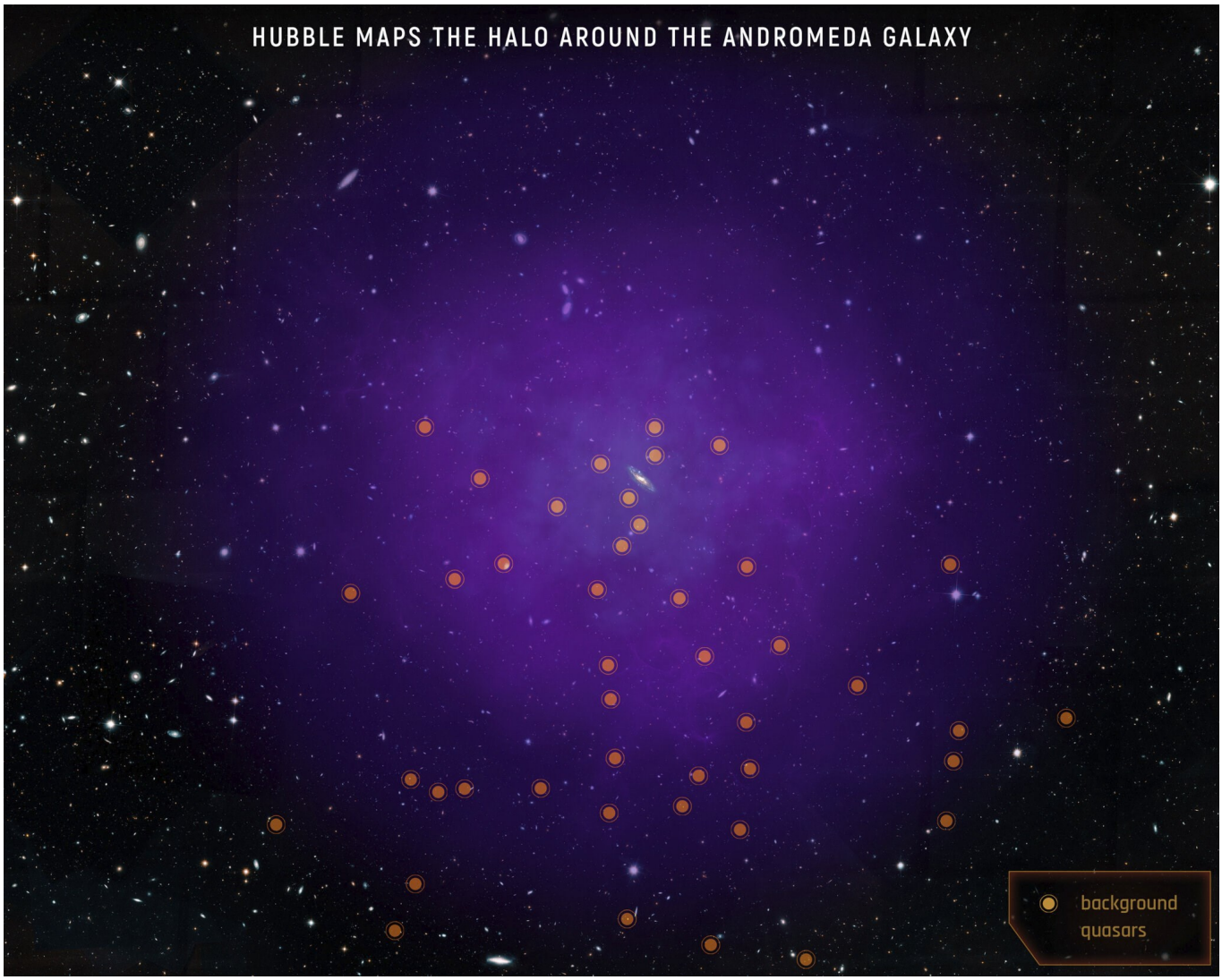
Have you heard that all the stars you see at night are part of our Milky Way galaxy? While that is mostly true, one star-like object located near the border between the constellations of Andromeda and Cassiopeia appears fuzzy to unaided eyes. That's because it's not a star, but the Andromeda Galaxy, its trillion stars appearing to our eyes as a 3.4 magnitude patch of haze. Why so dim? Distance! It's outside our galaxy, around 2.5 million light years distant - so far away that the light you see left M31's stars when our earliest ancestors figured out stone tools. Binoculars show more detail: M31's bright core stands out, along with a bit of its wispy, saucer-shaped disc. Telescopes bring out greater detail but often can't view the entire galaxy at once. Depending on the quality of your skies and your magnification, you may be able to make out individual globular clusters, structure, and at least two of its orbiting dwarf galaxies: M110 and M32. Light pollution and thin clouds, smoke, or haze will severely hamper observing fainter detail, as they will for any "faint fuzzy." Surprisingly, persistent stargazers can still spot M31's core from areas of moderate light pollution as long as skies are otherwise clear.

Modern astronomy was greatly shaped by studies of the Andromeda Galaxy. A hundred years ago, the idea that there were other galaxies beside our own was not widely accepted, and so M31 was called the "Andromeda Nebula." Increasingly detailed observations of M31 caused astronomers to question its place in our universe – was M31 its own "island universe," and not part of our Milky Way? Harlow Shapley and Heber Curtis engaged in the "Great Debate" of 1920 over its nature. Curtis argued forcefully from his observations of dimmer than expected nova, dust lanes, and other oddities that the "nebula" was in fact an entirely different galaxy from our own. A few years later, Edwin Hubble, building on Henrietta Leavitt's work on Cepheid variable stars as a "standard candle" for distance measurement, concluded that M31 was indeed another galaxy after he observed Cepheids in photos of Andromeda, and estimated M31's distance as far outside our galaxy's boundaries. And so, the Andromeda Nebula became known as the Andromeda Galaxy.

These discoveries inspire astronomers to this day, who continue to observe M31 and many other galaxies for hints about the nature of our universe. One of the Hubble Space Telescope's longest-running observing campaigns was a study of M31: the Panchromatic Hubble Andromeda Treasury (PHAT): bit.ly/m31phat . Dig into NASA's latest discoveries about the Andromeda Galaxy, and the cosmos at large, at nasa.gov.



Spot the Andromeda Galaxy! M31's more common name comes from its parent constellation, which becomes prominent as autumn arrives in the Northern Hemisphere. Surprising amounts of detail can be observed with unaided eyes from dark sky sites. Hints of it can even be made out from light polluted areas. Image created with assistance from Stellarium



While M31's disc appears larger than you might expect (about 3 Moon widths wide), its "galactic halo" is much, much larger – as you can see here. In fact, it is suspected that its halo is so huge that it may already mingle with our Milky Way 's own halo, which makes sense since our galaxies are expected to merge sometime in the next few billion years! The dots are quasars, objects located behind the halo, which are the very energetic cores of distant galaxies powered by black holes at their center. The Hubble team studied the composition of M31's halo by measuring how the quasars' light was absorbed by the halo's material. *Credits: NASA, ESA, and E. Wheatley (STScI) Source:* https://bit.ly/m31halo

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!

Monthly Sky Report

By Dave Nakamoto

As we approach and pass the autumnal equinox on September 22 at 12:20 p.m., PDT, the length of the nights finally matches and then surpasses the daytime hours, so we can observe sooner and longer than in the short nights of summer.

As for what we can observe in the sky, the planets look like this.

Mars passes behind the sun during September and October and cannot be observed. It will appear in the morning skies starting in November.

Mercury is the first planet to set in the evening sky. On the 1st, the sun sets at 7:18 p.m., PDT, and Mercury sets at 8:15 p.m., PDT, so you'll need to bring your binoculars out right after the sun sets if you're going to see it. By the end of September things will be worse as Mercury is even closer to the sun; the sun sets at 6:38 p.m., PDT, and Mercury sets at 7:04 p.m., PDT. On the 13th, Mercury will reach its greatest eastern elongation, when it is farthest east of the sun. Unfortunately, because Mercury will be low in the southwest, it isn't above the horizon for long. The sun sets at 7:02 p.m., PDT, and Mercury sets at 7:58 p.m., PDT. Do not observe any planet when the sun is in the sky, for the danger to the eyes is great.

Venus is next to set as it is a little further east of the sun than Mercury. On the 1st, Venus sets at 9:00 p.m., PDT, and on the 30th at 8:35 p.m., PDT. Venus is slowly approaching the earth; its size slowly increases from 15 arcseconds to 19 arcseconds, while the amount of its disk that is illuminated decreases from 73 percent to 62 percent.

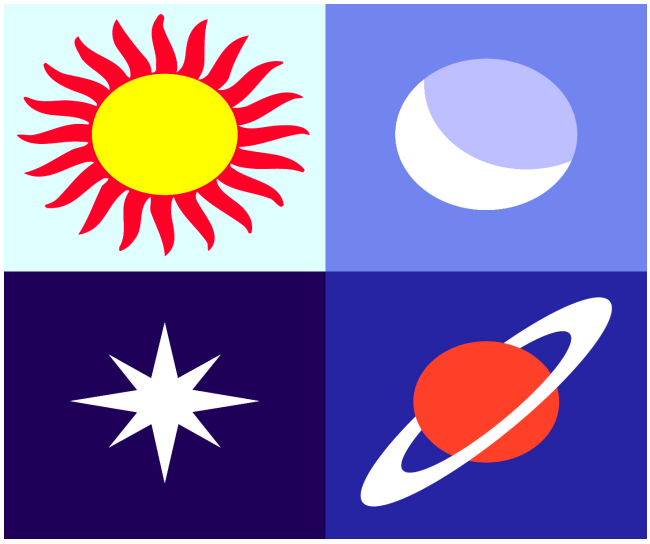
Saturn is next to appear in the evening sky. It rises at 5:44 p.m., PDT, on the 1st and at 3:46 p.m., PDT, on the 30th. It is highest in the sky around midnight but is still low in the south.

Jupiter is next to appear. It rises at 6:39 p.m., PDT, on the 1st and at 4:37 p.m., PDT, on the 30th. It is highest in the sky at midnight but is still low in 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 rises at around 9:00 p.m., PDT, in the middle of September. Uranus is at Right Ascension 2h 47m 30s, Declination +15° 41' 54". The planet is only 3.7 arcseconds wide, so you'll need a telescope with a magnification of 150x to show its diminutive disk. The same applies to **Neptune**, although it's tougher to find because it is much fainter than Uranus at mag. +7.8, and much smaller with a disk only 2.4 arcseconds wide. It is in the constellation Aquarius the Water Bearer. The planet rises around 6:30 p.m., PDT, in September. Neptune is at Right Ascension 23h 30m 28s, Declination -4° 27' 48".

The Moon is new on the 6th, at first quarter on the 13th, is full on the 20th, and at last quarter on the 28th.

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



Almanac

September 7 - New Moon. The Moon will located on the same side of the Earth as the Sun and will not be visible in the night sky. This phase occurs at 00:52 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.

●

September 14 - Neptune at Opposition. The blue giant 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 and photograph Neptune. Due to its extreme distance from Earth, it will only appear as a tiny blue dot in all but the most powerful telescopes.

September 14 - Mercury at Greatest Eastern Elongation. The planet Mercury reaches greatest eastern elongation of 26.8 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

September 20 - Full Moon. The Moon will be located on the opposite side of the Earth as the Sun and its face will be will be fully illuminated. This phase occurs at 23:54 UTC. This full moon was known by early Native American tribes as the Corn Moon because the corn is harvested around this time of year. This moon is also known as the Harvest Moon. The Harvest Moon is the full moon that occurs closest to the September equinox each year.

September 22 - September Equinox. The September equinox occurs at 19:11 UTC. The Sun will shine directly on the equator and there will be nearly equal amounts of day and night throughout the world. This is also the first day of fall (autumnal equinox) in the Northern Hemisphere and the first day of spring (vernal equinox) in the Southern Hemisphere.

October 6 - New Moon. The Moon will located on the same side of the Earth as the Sun and will not be visible in the night sky. This phase occurs at 11:05 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.

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

Links of Interest

Moon Phases Chart for 2021
https://www.mooninfo.org/moon-phases/2021.html

Sky Report—Griffith Observatory
http://www.griffithobservatory.org/sky/skyreport.html

NASA News:
https://www.nasa.gov/topics/solarsystem/index.html

JPL News:
https://www.jpl.nasa.gov/news/

TimeandDate.com:
https://www.timeanddate.com/astronomy/night/

September 2021

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

Meet The New Members

Matthew Mecklenburg and Family	Alex Hawthorn	Scott Miller
Jeff Mosely and Family	Claude Plymate and Teresa	Reed Forman
Tommy Dowling	Bippert-Plymate	Johnny Monserrat
Jim Mahon	Karen and Well Davis	Daniel Ray
Ronald Windsor and Family	Neil Rubin and Family	Caeden Lenac

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/

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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.

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

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Outreach Coordinator: Heven Renteria

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Club Communications: Andee Sherwood

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Mt. Wilson Coordinator: Darrell Dooley

mtwilsoncoordinator@laas.org

Bulletin Editor: Andee Sherwood

communications@laas.org

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

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

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