The Los Angeles Astronomical Society

APRIL, 2021
VOLUME 95, ISSUE 04

THE BULLETIN

Details of chromosphere activity are shown in the center of this solar image, while prominences on the limb (edge) of the Sun spew plasma. The black areas in these upper sunspot regions are cooler than the surrounding area, while the white is hotter. The chromosphere temperature ranges from 6.700ºF to 14,000ºF.

Prominences are anchored to the Sun's surface in the photosphere, which is below the chromosphere. They extend outward into the solar corona.

The limb of the Sun is supposed to be darker than the center, but it's been brightened in processing in order to show the prominences. The Sun's light is white, but is shown here in an embellished orange/red sunset color.

Photo credit: Ray Blumhorst

In This Issue

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

communications@laas.org

Upcoming Virtual Club Events

Board Meeting; April 7, 2021

General Meeting; April 12, 2021

New Contact Info For 2021?

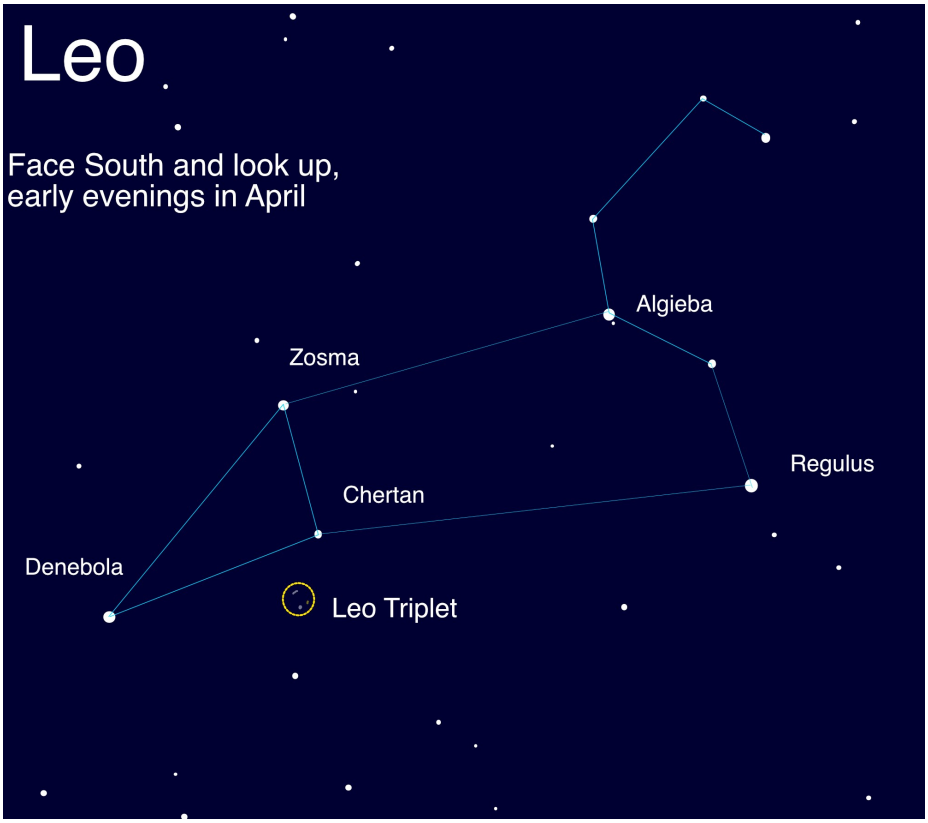
If you have recently moved, changed your email address or phone number, please contact our club secretary at

secretary@laas.org.

Watch the Lion: Celestial Wonders in Leo

By Dave Prosper

Leo is a prominent sight for stargazers in April. Its famous sickle, punctuated by the bright star Regulus, draws many a beginning stargazer's eyes, inviting deeper looks into some of Leo's celestial delights, including a great double star and a famous galactic trio.



The stars of Leo: note that you may see more or less stars, depending on your sky quality. The brightness of the Leo Triplet has been exaggerated for the purposes of the illustration - you can't see them with your unaided eye.

Leo's distinctive forward sickle, or "reverse question mark," is easy to spot as it climbs the skies in the southeast after sunset. If you are having a difficult time spotting the sickle, look for bright Sirius and Procyon - featured in last month's article – and complete a triangle by drawing two lines to the east, joining at the bright star Regulus, the "period" in the reverse question mark. Trailing them is a trio of bright stars forming an isosceles triangle, the brightest star in that formation named Denebola. Connecting these two patterns together forms the constellation of Leo the Lion, with the forward-facing sickle being the lion's head and mane, and the rear triangle its hindquarters. Can you see this mighty feline? It might help to imagine Leo proudly sitting up and staring straight ahead, like a celestial Sphinx.

If you peer deeper into Leo with a small telescope or binoculars, you'll find a notable double star! Look in the sickle of Leo for its second-brightest star, Algieba - also called Gamma Leonis. This star splits into two bright yellow stars with even a small magnification - you can make this "split" with binoculars, but it's more apparent with a telescope. Compare the color and intensity of these two stars - do you notice any differences? There are other multiple star systems in Leo – spend a few minutes scanning with your instrument of choice, and see what you discover. One of the most famous sights in Leo is the "Leo Triplet": three galaxies that appear to be close together.

One of the most famous sights in Leo is the “Leo Triplet”: three galaxies that appear to be close together. They are indeed gravitationally bound to one another, around 30 million light years away! You’ll need a telescope to spot them, and use an eyepiece with a wide field of view to see all three galaxies at once! Look below the star Chertan to find these galaxies. Compare and contrast the appearance of each galaxy – while they are all spiral galaxies, each one is tilted at different angles to our point of view! Do they all look like spiral galaxies to you?

Your view of the three galaxies in the Leo Triplet won’t look as amazing as this image taken by the VLT Survey Telescope, unless you have a telescope with a mirror 8 feet or more in diameter! Still, even a small telescope will help your eyes pick up these three galaxies as “faint fuzzies”: objects that seem blurry against a background of pinpoint stars. Let your eyes relax and experiment with observing these galaxies by looking slightly away from them, instead of looking directly at them; this is called averted vision, a handy technique that can help you see details in fainter, more nebulous objects.

Image Credit: ESO, INAF-VST, OmegaCAM; Acknowledgement: OmegaCen, Astro-WISE, Kapteyn I.

April is Citizen Science Month, and there are some fun Leo-related activities you can participate in! If you enjoy comparing the Triplets, the “Galaxy Zoo” project (galaxyzoo.org) could use your eyes to help classify different galaxies from sky survey data! Looking at Leo itself can even help measure light pollution: the Globe at Night project (globeatnight.org) uses Leo as their target constellation for sky quality observations from the Northern Hemisphere for their April campaign, running from April 3-12. Find and participate in many more NASA community science programs at science.nasa.gov/citizenscience. Happy observing!

This article is distributed by the NASA Night Sky Network, a coalition of hundreds of astronomy clubs across the US dedicated to astronomy outreach. Visit nightsky.jpl.nasa.gov to find local clubs, events, stargazing info and more.

NGC 2174/2175

The Monkey Head Nebula in Orion

By Jay Landis

Data
Starlight Xpress Trius Pro 694, -15C
Skywatcher ProED 120, 120mm at 900mm, f/7.5
Primaluce Field Flattener
Starlight Xpress Electronic Filter Wheel with Chroma filters Ha, SII, OIII 5nm
10Micron GM1000 Mount unguided

Images captured with Sequence Generator Pro, shot from my backyard under Bortle 8 skies.

30x600s Hydrogen-alpha
28x600s Sulphur II
30x600s Oxygen III

Total integration time 14 hours 40 minutes. Pre and Post processing in Pixinsight

This was one of the first targets I took when I first started imaging three years ago. The DSLR images from my backyard were horrible.

When I started using narrowband techniques, I was able to draw out the beauty of this nebula.

This depiction is a false color image called the Hubble palette. In the Hubble palette, the Sulphur II data is assigned to the red channel, the Hydrogen alpha data assigned to the green channel, and the Oxygen III data assigned to the blue channel.

In shorthand, the palette is called SHO. There is some ambiguity over the naming of this nebula that is why I included both designations NGC 2174 and NGC 2175. I hope this image inspires you as well.

Thank you for looking and clear skies. Enjoy the wonder.

Photo credit: Jay Landis

NGC 2359, Thor's Helmet Nebula in Canis Major

By Jay Landis

Data
Starlight Xpress Trius Pro 694, -15C
Skywatcher ProED 120, 120mm at 900mm, f/7.5
Primaluce Field Flattener
Starlight Xpress Electronic Filter Wheel with Chroma filters Ha, SII, OIII 5nm, RGB
10Micron GM1000 Mount unguided

Images captured with Sequence Generator Pro, shot from my backyard under Bortle 8 skies.

115x600s Hydrogen-alpha
153x600s Sulphur II
123x600s Oxygen III
16x300s Red
20x300s Green
8x300s Blue

Total integration time 68 hours 50 minutes. Pre and Post processing in Pixinsight

For all you Marvel Comics fans out there, this image should elicit images of the Norse God of Thunder, Thor's Helmet in shape.

This is a tricky target for me because of obstructions from my neighbor's house limiting my exposures and where I can acquire data.

This is a composite image of data through six different filters!! I used the standard red, green and blue filters to get an accurate star color for the background. Then I used my narrowband filters of Hydrogen alpha, Sulphur II and Oxygen III to pull out the nebula details.

The narrowband data is presented in the Hubble palette or SHO. According to Wikipedia, scientists estimate this nebula is 12,000 light years away and 30 light years across. They believe it is the remnant of a dying star affected by background molecular clouds to give it this odd shape. I hope this image inspires you as well. Thank you for looking and clear skies.

Enjoy the wonder.

Photo credit: Jay Landis

Monthly Star Report

By Dave Nakamoto

I'll discuss the planets in the order they appear in the sky, starting in the early evening.

Mars continues moving west to east through the constellations of the Zodiac. The sky as a whole moves slightly to the west each night. These two motions partially cancel one another so Mars appears to move slowly to the west at the same time each night. Mars starts each night about two-thirds of the way up from the western horizon. It slowly shrinks from 5.3 arcseconds to 4.6 arcseconds. This small size will make it nearly impossible for most amateur telescopes to see anything on the Martian disk, and so the time to observe Mars is practically over until the second half of 2022.

On the evening of the 26th, Mars will be half a degree north of the large and relatively bright open star cluster M35. Both will be visible in binoculars, although a telescope is needed to see Mars as a tiny disk. For a good look you should shield yourself from any direct lighting. Direct lighting is any light where you can see the source, like a street lamp or any outdoor lighting. M35 is one of the most spectacular objects in the sky, especially from a dark site, away from the glows of man-made lights.

All the remaining bright planets rise in the east in the morning.

Saturn rises in the east about three o'clock in the morning in the southeast. A small scope should show the rings with enough magnification, and perhaps the largest and brightest of Saturn's moons, Titan, which will show up as a faint star close to Saturn.

Jupiter rises about four o'clock in the morning in the east. A small telescope will show the two cloud belts of Jupiter, and its four brightest moons will show up as stars close to Jupiter and in a rough line. As they move around Jupiter, they pass in front of and behind it. When they pass in front, the moons and their shadows can be seen on the Jovian disk.

Mercury and Venus are too close to the Sun for most of the month and are unobservable. Never observe any planet when it is close to the Sun as the danger to the eyes is great from sunlight, especially through a telescope or binoculars.

The Moon's phases in April are:
Last Quarter – 4th
New Moon – 11th
First Quarter – 19th
Full Moon – 26th

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.

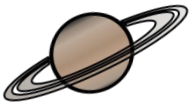
Almanac

April 12 - 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 02:32 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.

April 22, 23 - Lyrids Meteor Shower. The Lyrids is an average shower, usually producing about 20 meteors per hour at its peak. It is produced by dust particles left behind by comet C/1861 G1 Thatcher, which was discovered in 1861. The shower runs annually from April 16 -25. It peaks this year on the night of the night of the 22nd and morning of the 23rd. These meteors can sometimes produce bright dust trails that last for several seconds. The nearly full moon will be a problem this year. Its glare will block out all but the brightest meteors. But if you are patient you may 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 Lyra, but can appear anywhere in the sky.
will be near its closest approach to the Earth and may look slightly larger and brighter than usual.

April 27 - Full Moon, Supermoon. 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 03:33 UTC. This full moon was known by early Native American tribes as the Pink Moon because it marked the appearance of the moss pink, or wild ground phlox, which is one of the first spring flowers. This moon has also been known as the Sprouting Grass Moon, the Growing Moon, and the Egg Moon. Many coastal tribes called it the Fish Moon because this was the time that the shad swam upstream to spawn. This is also the first of three supermoons for 2021. The Moon will be near its closest approach to the Earth and may look slightly larger and brighter than usual.

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



Additional Links:

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/

April 2021

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

Passover begins on March 27th and ends on April 4th.

Meet The New Members

Sova Novak

Tien Nguyen

Anthony and Victoria De Vito

Omar Del Romero

Owen Hom and Family

Louis Ortega

Amaranto Belenie and Family

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/

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 retuned 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

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

Instagram

YouTube

twitter