The Los Angeles Astronomical Society

June, 2021
Volume 95, Issue 06

THE BULLETIN

M51--the Whirpool Galaxy is about 23 M light years from Earth and has a diameter of about 76,000 light years. We are looking at the galaxy head on so the spiral nature is clear. A smaller companion galaxy is interacting with it and believed to have passed through the main disk of M51 about 500-600 M years ago. The first image consists of 43 x 120 second exposure images on May 13 and 14th from my driveway and the second one includes 15 x 180 second exposure images taken last year and brings out a lot more detail. I had hoped to get more images this weekend, but the marine layer moved in sooner than expected. I'm rather pleased with the images I got this weekend since both nights the humidity was around 70% when I started and it was a race to get in some images before the marine layer moved in completely...both nights, it was over 90% an hour and half later and I called it quits since dew was forming over everything.

Photo Credit: Spencer SooHoo

Upcoming Virtual Club Events

Board Meeting; June 9, 2021

General Meeting; June 14, 2021

Dark Sky Night—June 12, 2021

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

Great News!

60 Inch Nights Are Back!

See Page 2 for more information

Update Your Contact Information

Please send any contact info changes to the club secretary at

secretary@laas.org.

60 Inch Nights Are Back!

Mt. Wilson Observatory!

Session Schedule—2021

Saturday June 12th

Saturday July 3rd

Saturday August 14th

Saturday September 4th

Saturday October 9th

Saturday November 6th

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

Please contact Darrell Dooley, our Mt. Wilson Coordinator by sending an email to:

Mtwilsoncoordinator@laas.org

Darrell is the only contact for these sessions and will be able to answer all of your questions and concerns.

General Information

Price per session, per person - $60.00

There will be 20 people, per session.

Face masks are mandatory until June 15th.

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/

“When Can We Go To Lockwood Valley/SKAS Again?”

It’s the big question on everybody’s mind with no simple answer.

By Kevin Gilchrist

While the current word from the State of California is for returning to normal operations on June 15, there is no guarantee that this will happen on that date, or any other. The status of Ventura County, where SKAS is located, has been moved to the Orange Tier as of April 6. There will continue to be restrictions on indoor and outdoor gatherings regarding size of groups, required use of face masks, and other social distancing guidelines. The LAAS Board of Directors will reevaluate the situation again once we pass the June 15 date, or until such time we receive notice from Sacramento. For the time being, access to SKAS is limited to Star Members without guests and the trailer remains closed. One restroom will be accessible, but it is the responsibility of each user to maintain cleanliness. Take your antimicrobial wipes and gels for use before and after.

A few words that apply to any of our events, public or private, in times of a pandemic or not: Sharing views through our telescopes with family, friends, and the public are at the core of why the LAAS was founded as an educational group. The eyepiece is, unfortunately, a very likely place to transfer microbes from one person to another. The use of an antimicrobial wipe by the telescope owner/operator on the surfaces of an eyepiece that come in contact with the face, between each user, is recommended.

Here’s to our health and clear, dark skies!

Kevin Gilchrist

Lockwood Committee

The sky above the SKAS site. Photo credit: Spencer SooHoo/2017.

NSN Webinar Series: Supersonic Snowballs in Hell: the Science of Sungrazing Comets

Images: NASA/ESA, Karl Battams

Join the NASA Night Sky Network on **Tuesday, June 22** at **6:00pm Pacific Time (9:00pm Eastern)** to hear **Dr. Karl Battams** give an overview of sungrazing comets, and how you can contribute to their study through the **Sungrazer Citizen Science** project.

Sungrazing and near-Sun comets represent well over half of all officially cataloged comets, yet are among the most poorly-understood objects in our solar system. Most of these comets follow orbits through space that place them into the most extreme environment our solar system has to offer, most often leading to a one-way death-plunge into the searing solar corona, at velocities exceeding 0.2% the speed of light! In this seminar I will begin with an overview of the discovery of these comets, most of which are found via the NASA-funded "Sungrazer" Citizen Science project, and the variety of Sun-watching spacecraft that discover and observe them. I will then briefly describe the various quirks of these comets including their physical and orbital properties, and discuss their tendency for clustering and fragmentation. Then, for the remainder of the seminar, I will provide details on the variety of science that we can learn from these comets, which not only allow us to explore fundamental properties of comets, but also to gain entirely unique science regarding the Sun's outer atmosphere and solar outflows.

About Dr. Karl Battams

Dr. Karl Battams is an astrophysicist and computational scientist based in the Solar and Heliospheric Physics Branch at the US Naval Research Laboratory. He is the Principal Investigator (PI) of the LASCO coronagraph telescopes on the ESA/NASA SOHO satellite and, for over seventeen years, has been the PI of the NASA Sungrazer Citizen Science Project, which has discovered more than 4,100 comets. He is also a member of the science team for several other active heliophysics missions. Karl's research interests span from studies of the solar atmosphere, to comets and asteroids, to dust trails, and more. He has presented numerous times on the subject of comets to audiences of all ages and backgrounds, and given countless online news media, radio, and television documentary interviews. He tweets about the Sun, comets, and more, as @SungrazerComets on Twitter.

Registration and Additional information for Members:

Night Sky Network members can join live, ask questions, and get up-to-date information about the resource. Members may register in advance for this webinar *(login required)* on the Outreach Resource page.

Public Viewing Options:

The event will stream live on YouTube. **Link**: https://youtu.be/Jdu7fHjeehg

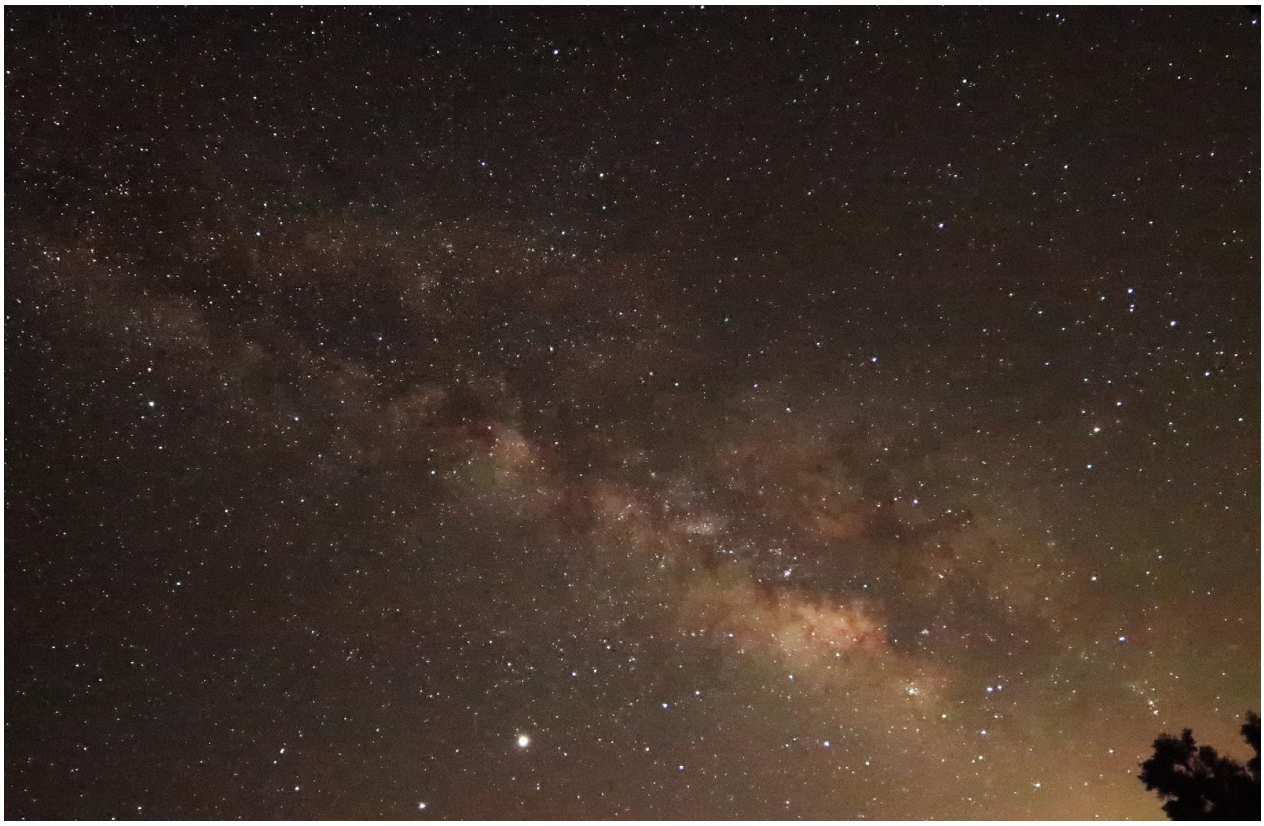
After the event, this recording will join past webinars featuring NASA Speakers on the NSN YouTube page. Click here to see a list of all previous webinars

Upcoming Webinars *(all webinars are at 6pm PT/9pm ET)*

Public Links to Upcoming Webinars

What Lies Beyond?
By Ray Blumhorst

When I was a kid growing up in rural America, I could look up in wonder on a clear night and see the Milky Way and seemingly limitless stars. Albert Einstein once said*, "The most incomprehensible thing about the universe is that it is comprehensible"*



At the time, my perception was limited to a much more immediate realm. My immediate environs were comprised of our house and farm and the local communities in the few small towns within 7 to 15 miles. Going to the town 30 miles away, where we'd visit the state fair once a year, was a major event. It wasn't until near the end of my teen years that I took my first airplane ride and soared into the wild blue yonder. Going into the military brought many new experiences along with new perspectives on the vastness of our world, and oh my, being in the middle of the Pacific Ocean on a ship was a mind stretcher of epic proportions.

Regardless of those broadened horizons, it wasn't until I started looking through telescopes, and especially big telescopes, that the true vastness of space and time and my minuscule humanity took on a truer perspective. A few years ago when I was inside a huge telescope dome, a fellow visitor asked me if beholding wonders revealed through such a magnificent telescope could be spiritual as well as intellectual*. "Well, in some people's experiences, yes," I replied.*

After completing an Astronomy class at a local college, I perceived still more of the true nature of our nature beyond the narrow confines of family and our local community groups. From the dynamics of small particles moving in a gravitational energy soup created by the big bang about 14 billion years ago, basic elements came forth. They coalesced and formed other things: stars, more complex elements (nucleosynthesis), galaxies, planets, and the building blocks of life - my life.

We live in a reality of space and time exhibiting both chaos and design, and believed by some to be created by power beyond space and time. Some say God, others say science, while still others say both, or none. But apparently none know absolutely in a deductively provable manner. They just believe.

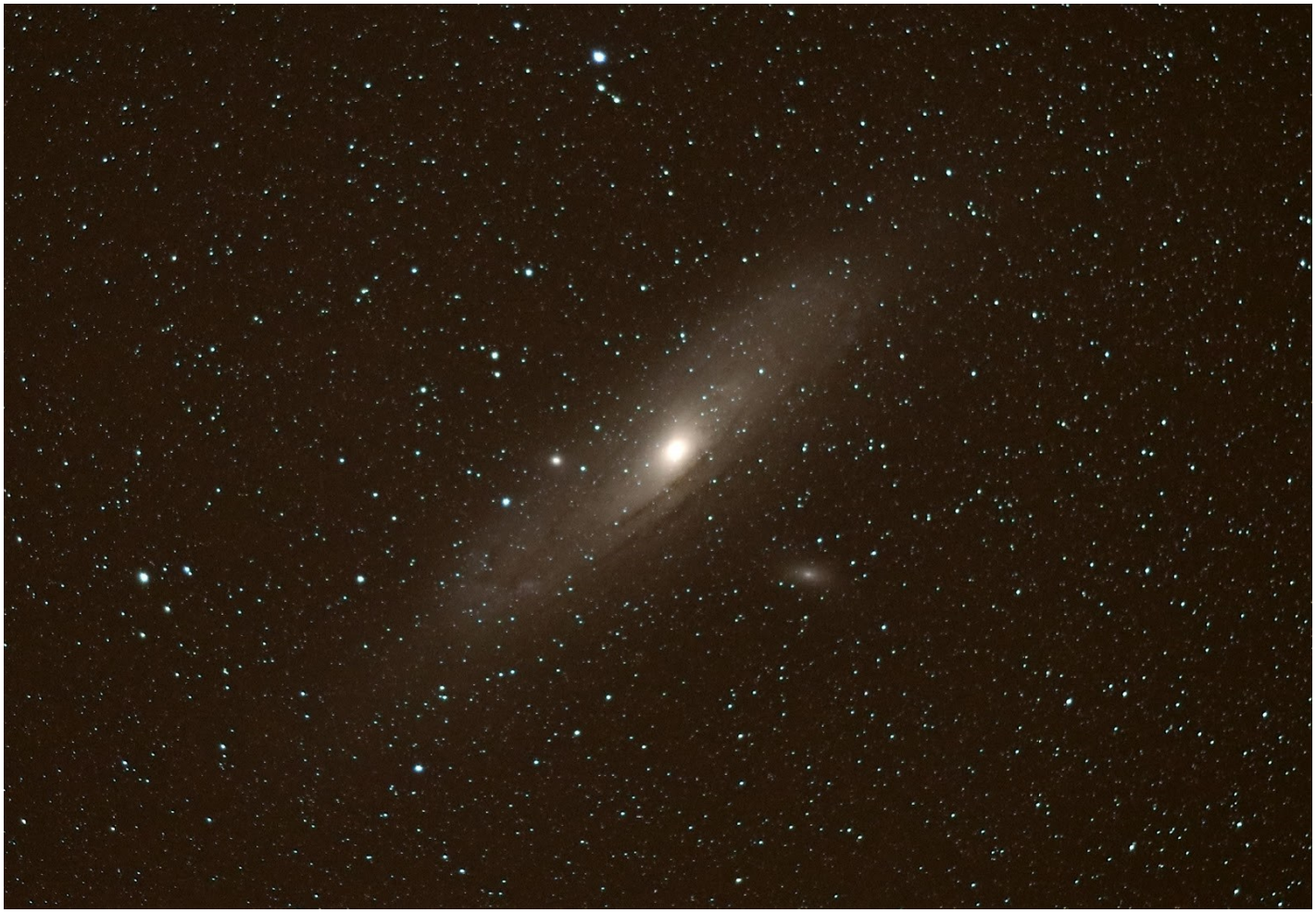
Stephen Hawking said, "*It is my view that the simplest explanation is there is no God. No one created the universe and no one directs our fate. This leads me to a profound realization. There is probably no heaven, and no afterlife either. We have this one life to appreciate the grand design of the universe, and for that, I am extremely grateful.*

Isaac Newton said, "*The wonderful arrangement and harmony of the cosmos would only originate in the plan of an almighty omniscient being [intelligence]. This is and remains my greatest comprehension."*

In many ways a simpler place and time in my life seems more secure, but who can ever go back, having looked and glimpsed what lies beyond? Those far reaches of space and time, and yes our minds, have always beckoned us like a siren song so we remain curious to know but apprehensive about what startling new revelations we may find. Each person's journey into that unknown is a unique personal experience where physical may border on metaphysical, or not. But all invariable seem to contemplate, *"What lies beyond?"*

"We are only the temporary custodians of the particles which we are made of. They will go on to lead a future existence in the enormous universe that made them." – Stephan Hawking

The sun, with all those planets revolving around it and dependent on it, can still ripen a bunch of grapes as if it had nothing else in the universe to do. – Galileo Galilei



Astrophotography With Your Smartphone

By David Prosper

Have you ever wanted to take night time photos like you've seen online, with the Milky Way stretched across the sky, a blood-red Moon during a total eclipse, or a colorful nebula? Many astrophotos take hours of time, expensive equipment, and travel, which can intimidate beginners to astrophotography. However, anyone with a camera can take astrophotos; even if you have a just smartphone, you can do astrophotography. Seriously!

Don't expect Hubble-level images starting out! However, you can take surprisingly impressive shots by practicing several basic techniques: steadiness, locked focus, long exposure, and processing. First, steady your smartphone to keep your subjects sharp. This is especially important in low light conditions. A small tripod is ideal, but an improvised stand, like a rock or block of wood, works in a pinch. Most camera apps offer timer options to delay taking a photo by a few seconds, which reduces the vibration of your fingers when taking a shot. Next, lock your focus. Smartphones use autofocus, which is not ideal for low-light photos, especially if the camera readjusts focus mid-session. Tap the phone's screen to focus on a distant bright star or streetlight, then check for options to fine-tune and lock it. Adjusting your camera's exposure time is also essential. The longer your camera is open, the more light it gathers - essential for low-light astrophotography. Start by setting your exposure time to a few seconds. With those options set, take a test photo of your target! If your phone's camera app doesn't offer these options, you can download apps that do. While some phones offer an "astrophotography" setting, this is still rare as of 2021. Finally, process your photos using an app on your phone or computer to bring out additional detail! Post-processing is the secret of all astrophotography

You now have your own first astrophotos! Wondering what you can do next? Practice: take lots of photos using different settings, especially before deciding on any equipment upgrades. Luckily, there are many amazing resources for budding astrophotographers. NASA has a free eBook with extensive tips for smartphone astrophotography at bit.ly/smartastrophoto, and you can also join the Smartphone Astrophotography project at bit.ly/smartphoneastroproject. Members of astronomy clubs often offer tips or even lessons on astrophotography; you can find a club near you by searching the "Clubs and Events" map on the Night Sky Network's website at nightsky.jpl.nasa.gov. May you have clear skies!

A small tripod for a smartphone. They are relatively inexpensive – the author found this at a local dollar store!

The Moon is large and bright, making it a great target for beginners. The author took both of these photos using an iPhone 6s. The crescent moon at sunset (left) was taken with a phone propped on the roof rack of a car; the closeup shot of lunar craters (right) was taken through the eyepiece of a friend's Celestron C8 telescope.

The LAAS has been a member of the NSN since May, 2011.

Follow this link to view our site on the network:

https://nightsky.jpl.nasa.gov/club-view.cfm?Club_ID=1344&View=Public

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

What is NASA's Night Sky Network?

Learn more here:

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

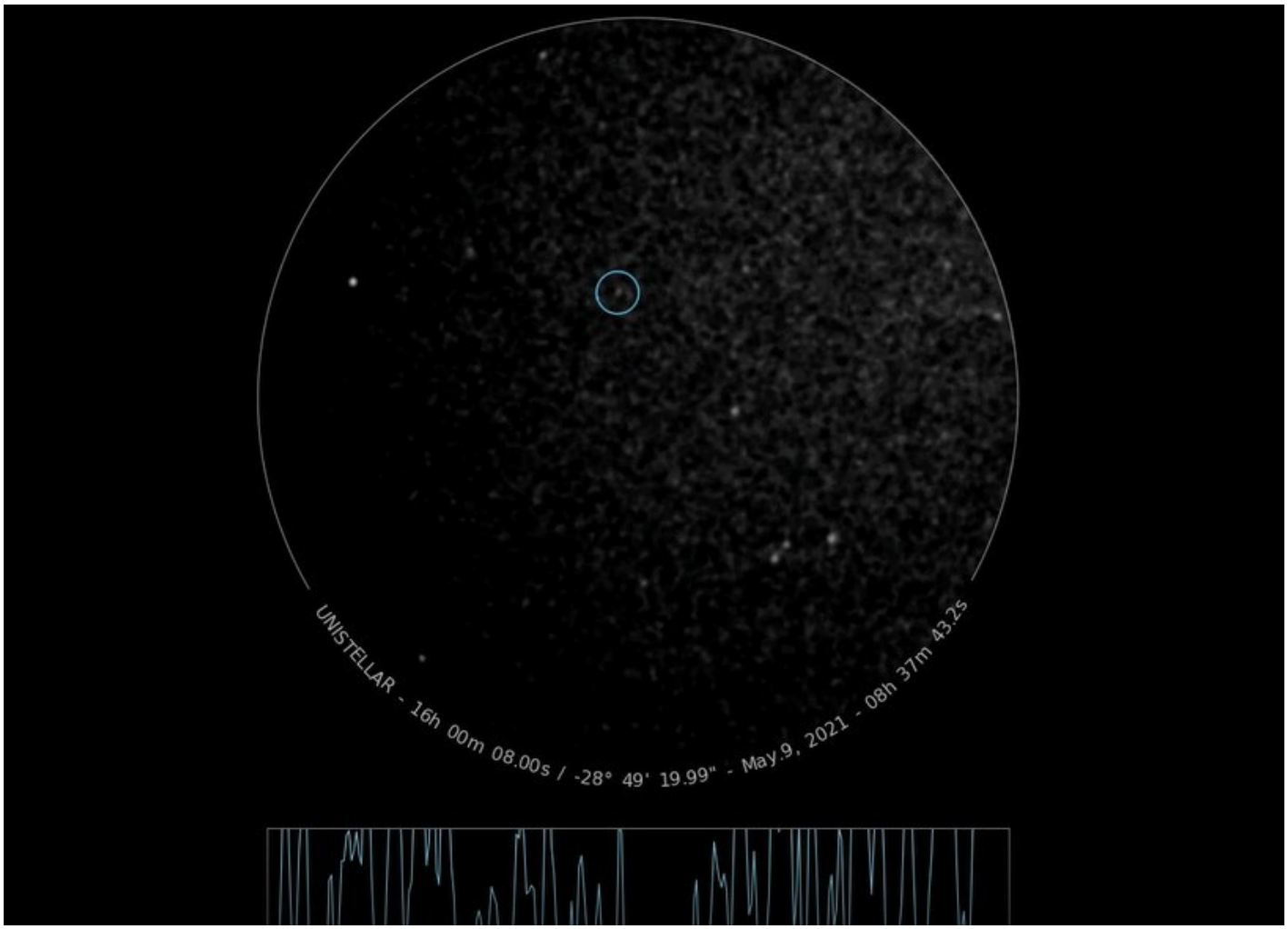
Trojan Asteroid Occultation

By Tim Russ

The crossing of the Trojan Asteroid, Patruclus, in front of a star captured on my Unistellar eVscope. Note when the star in the circle disappears for a couple seconds and note where the indicator on the graph at the bottom is when the star disappears.

Click on the following file to view the Tim's video:

https://www.youtube.com/watch?v=mGfwdxAo1aM



Monthly Sky Report

By Dave Nakamoto

This is what's happening in the sky in June. I'll discuss the planets in the order they appear in the sky, starting in the early evening.

Mercury appears in the west in the early evening. On the 1st, the sun sets at 8:00 p.m., PDT, while Mercury sets at 8:52 p.m., PDT. It then passes in front of the sun and is unobservable until the end of the month. On the 30th, Mercury rises in the morning sky at 4:32 a.m. and the sun rises at 5:45 a.m. Never observe Mercury when the sun is in the sky, for the danger to the eyes is great.

Venus is also in the evening sky. It remains there for the next several months. On the 1st, Venus sets around 9:20 p.m., PDT. On the 30th, Venus sets around 9:45 p.m., PDT. Venus presents a wide gibbous phase and appears small in a telescope. Never observe Venus when the sun is in the sky, for the danger to the eyes is great.

Mars continues its west to east motion through the constellations of the Zodiac. Mars starts the month after sunset about a third of the way up from the western horizon. It sets around 11:00 p.m. on the 1st, and at 10:00 p.m. on the 30th. On the 22nd and the 23rd Mars will be in front of the large open star cluster M44, also known as the Beehive cluster. Mars is only four arcseconds wide, which is too small to see anything in amateur telescopes, and so the time to observe Mars is practically over until the second half of 2022.

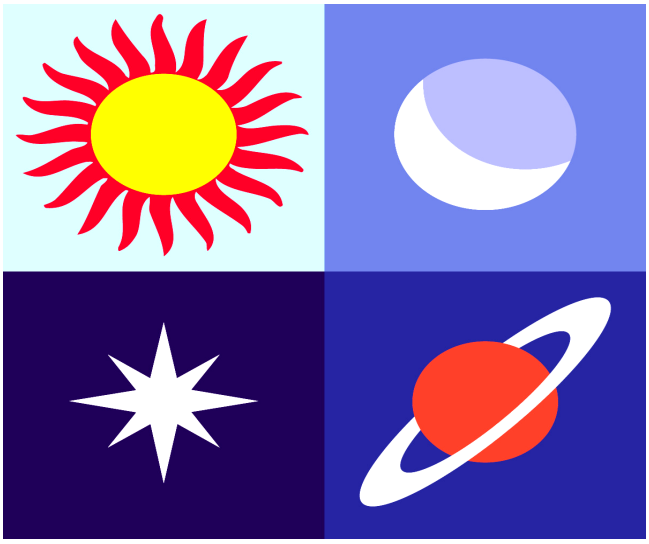
All the remaining bright planets rise in the east in the morning.

Saturn rises in the east about midnight in the southeast on the 1st, and around ten o'clock on the 30th. 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 one o'clock in the morning in the east on the 1st, and at 11:00 p.m. on the 30th. 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 Jupiter's disk. When they pass in front, the moons and their shadows can be seen on the Jovian disk.

The Moon's phases are:
Last Quarter – 2nd
New Moon – 10th
First Quarter – 17th
Full Moon – 24th

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

June 10 - **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 10:54 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.

June 10 - **Annular Solar Eclipse.** An annular solar eclipse occurs when the Moon is too far away from the Earth to completely cover the Sun. This results in a ring of light around the darkened Moon. The Sun's corona is not visible during an annular eclipse. The path of this eclipse will be confined to extreme eastern Russia, the Arctic Ocean, western Greenland, and Canada. A partial eclipse will be visible in the northeastern United States, Europe, and most of Russia. (NASA Map and Eclipse Information) (NASA Interactive Google Map)

June 21 - **June Solstice.** The June solstice occurs at 03:21 UTC. The North Pole of the earth will be tilted toward the Sun, which will have reached its northernmost position in the sky and will be directly over the Tropic of Cancer at 23.44 degrees north latitude. This is the first day of summer (summer solstice) in the Northern Hemisphere and the first day of winter (winter solstice) in the Southern Hemisphere.

June 24 - **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 18:40 UTC. This full moon was known by early Native American tribes as the Strawberry Moon because it signaled the time of year to gather ripening fruit. It also coincides with the peak of the strawberry harvesting season. This moon has also been known as the Rose Moon and the Honey Moon. This is also the last 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/

June 2021

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

Meet The New Members

Cody Bankroft

Alexis Perkins

Rod Kaufman

Cesar Osorio

Ari Nikni

Bruce Poltrock

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.

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.

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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

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