

## THE LOS ANGELES ASTRONOMICAL SOCIETY

## THE BULLETIN

JULY, 2017

## DOUBLE IRIDIUM FLARES NASIR JEEVANJEE



The two streaks you see on the main photo is due to iridium satellites #6 and #51. The flares were 10 seconds apart and lasted about 30 seconds looking east at Azm 109 deg and Alt 23 deg.

The main photo was taken with sony A58 camera. Two photos of 20 sec each at ISO 400 were stacked to make a composite image. The three insets on the lower left were taken with iPhone 7

Location: Van Nuys Time: June 13th, 4:05 AM Nasir Jeevanjee 800 MEMBERS LOOKING UP!

VOLUME 91, ISSUE 7

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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 beauties and wonders of our universe.

# PHOTO OF THE MONTH BARRY MEGDAL



## NGC6946 with supernova 2017eaw

The attached image of galaxy NGC6946 shows the recent supernova, as well as an image of the galaxy without the supernova. I took both images from Lockwood Valley.

Scope is 8" Astro-Physics refractor.

Dr. Barry Megdal

Faculty Dept. of Electrical Engineering California Institute of Technology Pasadena, CA



LAAS New Member **Potluck, Open House** and Swap Meet!

## Sunday, July 9, 2017

Time: 3 PM - 8 PM

Location: 781 S. Orange Ave, Monterey Park, CA



Calling all new members! Each year, we have this special event just for you! Your friends and family members are welcome to attend. We'll have grilled hot dogs and burgers. Please bring along your potluck favorites to share.

-Swap Meet - Starts at 3PM - Setup at 2 PM - Bring folding tables and chairs for you and any guests. -Food served by 4 PM. Bring food suitable for serving at room temperature. -Astro Images will be on display in the Community Center after sunset. **All LAAS Members are welcome!** 



💢 Contact: geovanni\_somoza@hotmail.com

Date: Saturday, July 15, 2017

Time: 4:00 PM - 11:59 PM

Location: Lockwood Valley

In 2011, the first Family Night was scheduled at our Lockwood Dark Sky site best known as the Steve Kufeld Astronomical Site (SKAS).



Here is a link on our website to learn more about this special club facility:

http://www.laas.org/joomlasite/index.php/dark-sky-observing.

Family Nights are scheduled for all club members and families to enjoy a night of dark sky observation far from the city lights of Los Angeles. You may bring camping equipment or campers and stay for the entire evening. It's a star party and gives our members an opportunity to view celestial objects normally not visible in the sky over the city. Due to extreme weather conditions, we only offer these nights to our members during warmer months.

Gates open at 4 PM and the departure times will be discussed with the group. Please arrive early before sunset to become familiar with the grounds and set up equipment. Some of our members enjoy setting up a potluck-style meal which you may find discussed on our Yahoo group.



Friends and fellow members gathered together at Lockwood for our first Family Night of the season on June 17, 2017. Photo credit: Kevin Gilchrist/Lockwood Committee Chairperson

## BOOK NOW! ONLY FOUR SESSIONS LEFT FOR THE SEASON!

MT. WILSON NIGHTS ARE BACK! Make Your Reservations Soon!

60 Inch Nights: <del>Friday 4/21 (Half)</del> <del>Saturday 5/20 (Full night)</del> <del>Saturday 6/24 Imaging Session - 4 Spots Op</del>en! Friday 7/21 (Half) Saturday 9/16 (Half) Saturday 10/28 (Half) (Moon night!) Saturday 11/11 (Half)

Email Darrell before using the PayPal link to guarantee space available.

100 inch nights: Friday 6/23 (Half)

> Contact Darrell Dooley at Mtwilsoncoordinator@laas.org for further information

### A Full Night Of Observing On Mt. Wilson's 60-inch Telescope

by: Ray Blumhorst

Members of the LAAS and others attended an all night observing session on the Mount Wilson 60inch telescope from sunset Saturday, May 20<sup>th</sup> to sunrise May 21<sup>st</sup>, focusing in on a long list of notable celestial objects.

For those arriving early, the observatory grounds are a great place to go for a hike. The air is clean and inviting and each of the observatories historical telescopes has an illustrated information board next to it.

Outside the main gate of the observatory, just to the south, lies the old Mt. Wilson Toll Road and the path traveled by Mt. Wilson's giant telescopes on their way to the mountaintop. Hiking a few hundred yards down the old toll road (now a hiking path) gives a feeling of the immense effort that must have gone into getting all those telescopes to the mountaintop.



About 50 feet down the path the asphalt pavement ends suddenly, but the old toll road proceeds to twist and turn along the steep mountain terrain much as it did 100 hundred years ago. Small lizards scurry to get out of the way. Stopping abruptly, they blend into the rocks and dirt along the trail.



It's fascinating to consider that telescopes, still used for observing sessions and other functions, came up the treacherous mountain toll road. One old photo on the Mt. Wilson Observatory website shows the 60-inch telescope being assisted on its journey up the steep toll road by a team of mules.

Shortly before sunset, the people attending the observing session assembled outside the main gate and were ushered to the 60-inch telescope dome by LAAS Mt. Wilson Coordinator, Darrell Dooley. Following a safety lecture, general instructions, and a quick photo outside the dome, the group went inside the dome.



The day down below had been hot. The marine layer that sometimes blankets the city was a noshow so afternoon visibility from the mountaintop provided a view all the way to downtown L.A., revealing the landmark Library Tower and other tall buildings.

The marine layer that blocks the view of the city also blocks some sky glow from the city so without the marine layer the sky glow was significant when evening arrived, but the seeing was fine none-theless.

LAAS member, Nasir, was the first person to take to the ladder to observe a night sky object and the first object was Jupiter. Jupiter's moon Io was closest to Jupiter. Ganymede was just outside of Io. A handheld photo taken with my camera at the eyepiece around 8:30 p.m. shows Io, Ganymede, and Jupiter's red spot. Mr. Dooley got other photos over the course of the evening and later sent them to the group.



The list of objects observed over the course of the night was quite extensive with Telescope Operator, Geo Somoza slewing the big 60-inch to each one:

Jupiter	Saturn			
Ghost of Jupiter	C/2015 V2 Comet			
Sombrero Galaxy	Cat's Eye Nebula			
I a Superba	Double Double			
M3	Ring Nebula			
Jupiter again	PK 64+15.1 The really red one.			
Arcturus	Alberio			
Blue Snowball	Blinking Planetary			
Neptune	M13			
Moon				

In the eastern sky, just before sunrise Sunday morning, the moon was at about 30 degrees altitude. Thirty degrees altitude is about as far as the 60-inch telescope can slew down. The view through the telescope of the many craters and other features on the moon was fabulous, even though morning twilight was steadily brightening the sky. My observation of the moon was the last one at the eyepiece for the session and concluded the all-nighter.

The slow drive along the heavily wooded, observatory road was a pleasant ending to the viewing session. As my car approached the front gate of the observatory I saw some kind of motion off to my right. When I looked, I saw two does scamper off into the woods to the north. They were obviously getting in some early morning grazing. It seemed the treats for the eyes didn't want to end. The wonderful weekend getaway to Mount Wilson Observatory is one I hope to experience again, sooner than later.

## Lockwood Valley Report:

### THE WEEDS! THE WEEDS!

Many thanks are due our members and friends who came out on May 20th to cut weeds - Alex Ruválcabaj and her friend Caitlin from the Annapolis Naval Academy, Michael Ogle, Dominique and Julien Jean. (There was another member there - sorry I forgot your name - I lost my list.) And a BIG double thanks to our Bakersfield area members, Jim Wood and Ken Powers, who arrived a couple days early and were whacking weeds for two days before the rest of us arrived on Saturday. Joe Phipps and John O'Bryan made an attempt to hook up the restroom in the trailer. More work and a replacement for the current throne is needed. Once we are assured of a working restroom we will be replacing the current restroom with a new one, the exact nature of which we will be deciding at the next Lockwood Committee meeting on June 14. Our committee meetings are open to the general membership and held at Garvey Ranch Park in the meeting room next to the entrance to the observatory/workshop. We meet from 7:30pm to 9:30pm. Though you won't be reading this in time for the June 14 meeting, come and join the merriment on July 12. There will be cookies!

### DARK SKY NIGHT - MAY 27

We had a respectable turn out of members for being a Memorial Day and RTMC weekend. There were about 16 people that night including several new members, but most were astrophotographers. I opened the Gordon Mitchell Observatory and drove the 16" Newtonian for the new members who don't have telescopes yet and to entertain the astrophotographers who's rigs were functioning well enough to be left alone for a few minutes. I can tell already who's got the aperture bug!

I started off with Jupiter and 4 visible Galilean Moons while it was still early dusk. A little later we were able to enjoy the Great Red Spot with a blue filter. Again, while it was still not dark, dark, dark, located the Sombrero Galaxy (M104) with its prominent dust lane. Someone commented it looked like someone had taken a Magic Marker to it. Located the Leo Triplet next (M65, M66, NGC 3628), then moved over to the Markarian Chain, notably M84, M86, and "The Eyes" (NGC 4438 and 4435). By then it had gotten dark enough to freely bop around the sky and we took in M51 (The Whirlpool), clearly making out spiral structure in the larger Spiral. M13 in Hercules was a clear winner as were M8 (Lagoon), M20 (Trifid) both with and without an OIII narrow-band filter, M21 (open cluster) is in the same field of view as M20. M57 (The Ring), again with and without OIII filter, M80 and M4 globular clusters in Scorpius, and an amazing capture of Omega Centauri.  $\omega$  Cen is so low to the horizon that only the top 1/3rd of the telescope's aperture was looking at it, the rest was looking at the observatory's wall and roof structure. At some point we looked at Saturn and Titan, with Dione, Mimas, Enceladus, and Tethys picked out near the ring system. I closed out my evening with the Veil Nebula, both Western (NGC 6960, The Witch's Broom) and Eastern (NGC 6992) bits. I would have stayed later (Sagittarius was just clearing the trees) but I was scheduled to tune one of our instruments in San Marino for a Sunday afternoon recital by the church's organist. I was home by 2am and ready for bed a minute later.

#### Kevin Gilchrist Lockwood Committee Chair 2017 kevingilchrist59@yahoo.com



## LAAS Member Profile: Gene Mauk

### by Lew Chilton, the LAAS History Detective

I was shown an interesting piece of LAAS memorabilia this past May at Garvey Ranch Observatory, and I'd like to share it with you.

Knowing my interest in LAAS history, our treasurer John O'Bryan motioned me over to look at an image on his smart phone. It was of an LAAS membership card issued almost 70 years ago to Gene Mauk. The card has an expiration date of September 17, 1948.

This certifies that						
Genc. Richard Mark is a member of						
The Los Angeles						
Astronomical Society, Inc.						
Los Angeles, California						
Expiration Date - Treasurer						

I immediately recognized Mauk's name from a 1948 membership list – the same list that includes the names and signatures of Edwin P. Hubble and other distinguished Mount Wilson and Griffith Observatory astronomers.

How our treasurer's smart phone came to have an image of Mauk's membership card is a story in itself and one you may enjoy reading.

John regularly visits his mother-in-law at a skilled nursing facility. She shares a room with another patient whose husband is, by an astronomically remote coincidence, the same Gene Mauk! A devoted husband, he has been visiting his wife Janet twice a day for the past four years. On one of John's visits, Mauk was in the room and overheard him discussing LAAS activities, and this led Mauk to introduce himself as a former LAAS member. During a subsequent visit, Mauk brought one of his old LAAS membership cards to show John, who asked if he could take a picture of it. His smart phone image is shown above.

At my request, John obtained Mauk's email address, and I soon arranged a date for my wife and me to visit him at his home in La Crescenta. When we arrived, we were met at the door by his daughter Cindy. She escorted us into the living room where we were introduced to her father, Gene Richard Mauk.

After formal introductions, we sat down to discuss his life, which began in Inglewood in 1929. Gene's family moved to Glendale during his early years. He graduated Glendale High School in 1947, the same year he joined the LAAS so that he could learn more about astronomy and how to make a telescope.

Gene's LAAS mentor was 1947 president and telescope workshop instructor, Harry Latimer Freeman. After purchasing an 8-inch mirror kit, Gene ground, polished and figured it entirely at home, with only occasional testing by Freeman to check its progress. Asked why he didn't work on his telescope in the LAAS workshop, Gene replied that it was too far from home to get to on a regular basis. He built a German equatorial mount from pipe fittings and poured babbitted bearings for it on his kitchen floor! (Babbitt is a lead-tin alloy with a low melting point.)



Left: Gene Mauk, circa 1949. He was an LAAS member from 1947 to 1954.

Below: A recent photo of Gene and his home-built 8-inch Newt. He began build-ing it in 1947. It was later upgraded with a Parks fiberglass tube and several tube components.

(Images courtesy of Gene Mauk)

After graduating Glendale College in 1949, he enrolled at UCLA with a major in astronomy but quit to join the army in 1950. After his discharge, he began working for Lockheed Aircraft as an apprentice machinist while consecutively attending UCLA extension, L.A. City College and L.A. Valley College on a part-time basis. He

married Janet in 1954 and four children followed. He obtained an engineering degree from Cal State-L.A. in 1966 and retired from Lockheed in 1990. For many years, he commuted to work in his 1930 Ford Model A.

For a man of 87, Gene looks remarkably young and fit. He still enjoys hiking and climbing. He has climbed the highest points in 49 of the 50 states and continues to hike segments of the Pacific Crest Trail. He's a past chairman of the Pacific Peaks Section of the Sierra Club.

Gene continues to maintain an interest in astronomy but laments the observing conditions in his backyard. Since moving to his current home in 1963, he has watched the sky deteriorate and the encroachment of his neighbors' trees. When asked what facet of astronomy he likes best, he says, without hesitation, total solar eclipses. He's an eclipse chaser and has been to almost every continent to observe them – ten at last count. And he intends to be in Oregon this August observing his eleventh!

During our visit, Gene allowed me to scan all seven of his LAAS membership cards and take some pictures of his prized Model A Ford. As our visit drew to a close, he excused himself and was off to visit his wife.



# OUTREACH REPORT

## Anton Elementary (East LA) Date: Friday, June 02, 2017 Time:7:00pm – 9:00pm Reported by Van Webster/LAAS

Three members of the Los Angeles Astronomical Society's Outreach Team visited Anton Elementary School in East Los Angeles for an evening of Solar System Viewing. The school was hosting a

Science Night with a range of activities for the students and their families.

Anton Elementary School is housed in a new, multistory citadel perched on a hill like a cubist medieval castle. The community is vintage Los Angeles with narrow streets, mini bungalows stacked like Legos in a shoe box and parked cars everywhere. The streets are lined with small pop up business selling everything from T-Shirts to tacos.

Our intrepid astronomers set up in a playground behind the school and soon had the Moon in view. A little later, Jupiter with four moons could be



seen in the eyepieces. Students and family members, some bearing baggies of a gooey concoction that they had made at another activity, eagerly took their first close up looks at the night sky.

It took some explaining about planets, moons, stars and distances for the participants to begin to get a feel for what they were seeing that night.

9:00 PM came around quickly. The astronomers packed up their gear and headed off into the night. Now how is it that I get back to a freeway?



Contact: Outreach@LAAS.org





Bill and Chris McDaniel	The Szet
Eric and Tyrsa Rickards	The Frid
Michael Phillips	Thomas
Chris Flores	John Hes
Blake Shepherd	Robert a

The Szeto Family The Fridman Family Thomas Russell John Hester Robert and Rosalie Von Wendt The Marisco FamilyDana Bauer and FamilyMichael and Christal IkonaLeonard VorhisJason and Rebecca RogersMichael MetzoEdward GenaviaHarrison SanbornJoel NelsonLeonard Metzo

Please remember to renew your membership once you receive notice from the Club Secretary. Use this link to learn how to renew your membership:

https://fs30.formsite.com/LAAS/MemberRenewal/index.html



## **ASTRONOMY MAGAZINES**

Sky and Telescope renewals should be sent directly to Sky Publishing.

To start a subscription at club rates, send a check payable to "Sky & Telescope" in the amount of \$32.95 for a one year subscription to:

Los Angeles Astronomical Society

C/0 Griffith Observatory

2800 East Observatory. Road

Los Angeles, 90027

**ATTN: Treasurer** 

Be sure to include the exact name and mailing address for your subscription. Then, thereafter, send the renewal bills directly to Sky Publishing. **For a club rate subscription to Astronomy**, send a check payable to Kalmbach Publishing Co. in the amount of \$34 for one year or \$60 for two years to the above address.

Be sure to include the exact name and mailing address for your subscription. That magazine also requires later subscription renewals to be handled through the LAAS Treasurer.

# FUNDRAISING FOR THE LAAS



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When you shop at smile.amazon.com, Amazon donates to the charity of your choice.

SMILE.AMAZON.COM

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?

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John O'Bryan, Jr./Treasurer



Thank you for your donation!

# A GUIDE TO THE NIGHT SKY FOR JULY, 2017 BY TRE GIBBS



**Saturn** is the prominent planet this month! The quintessential gas giant has been slowly making it's return to our night skies since late May and is poised for perfect viewing on clear, still nights. The one issue with this distant world is that it's REALLY distant. So, from Earth, it appears as if it's simply just another "star" in the night sky. - except for one small difference... it doesn't twinkle. On the evening of July 6th, the moon rises and travels the sky just to the left of Saturn. When it's dark (and weather permitting) it will be easy to spot this distant neighbor appearing as a small but steady stream of light - like a biege-ish star.

Two nights later, on July 8th, we are treated to this month's full moon, known as the Full Buck Moon, since it's the time of year that bucks are showing off their new antlers.

There are also some cosmic happenings in the pre-dawn skies. For the early risers, look to the east around 5:00 - 5:30 am on the morning of July 20th to see the moon paired up with brilliant Venus. The Goddess of Love will be sitting just above the waxing crescent moon, until the sun's increasing glare renders her practically invisible.

Jupiter has been a brilliant force in the early evening skies all through later Spring and early Summer of this year. Look high in the southwest after twilight to see the Roman King of Gods still shining brightly in the constellation Virgo, The Maiden of the Harvest. Jupiter, being further away from the sun than Earth, orbits the sun more slowly than Earth does. So, as Earth continues it's orbit around the Sun, it catches up to and passes Jupiter, which is why over time, bright Jupiter appears a little further west than it did the night before. While extremely subtle and not noticeable on a nightly basis, over several weeks and months this westward drifting becomes increasingly noticeable. On the evening of the 28th, the moon and Jupiter travel the sky together, so look for both in the southwest on this one night only as twilight begins.

Here is a preview of what's coming next month. On August 21st, we are going to experience an almost TO-TAL SOLAR ECLIPSE! This is the first total solar eclipse in the USA since 1979, although, from our location here in California, we will only experience about 80-85% of the sun being blocked, but it will be very noticeable as the day will darken rather dramatically, making everything looks strange and erie. FYI - here's what happens during a Solar Eclipse. The moon, orbiting Earth, crosses in front of the sun, temporarily and partially blocking a great deal of sunlight from reaching us. Remember - NEVER LOOK AT THE SUN DIRECT-LY. Find some proper glasses to protect your eyes so you can view the eclipse - you can usually find some online (amazon.com). The eclipse will slowly start to begin around 9:00 am on Monday morning and by 11:36 am, the eclipse will have ended, with the moon having moved past the sun, and no longer blocking any of it's light.

Enjoy your Summer, protect your eyes and until next time, KEEP LOOKING UP !!

Keep Looking Up!

Tre





Join your fellow club members by becoming an Outreach Volunteer . It's a fun and very rewarding experience for all cub members. For more information, contact Heven Renteria at

#### Outreach@laas.org

### Need Help With A New Telescope?

Need help with your new telescopes or other astronomy gear? Visit the Garvey Ranch Observatory on any Wednesday night 7 PM to 10 PM for tips and assistance by your fellow LAAS members.

### Learn more here:

**Garvey Ranch Park/Observatory** 

**July 9 - 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 04:07 UTC. This full moon was known by early Native American tribes as the Full Buck Moon because the male buck deer would begin to grow their new antlers at this time of year. This moon has also been known as the Full Thunder Moon and the Full Hay Moon.

July 23 - 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 09:46 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.

**July 29, 30** - **Delta Aquarids Meteor Shower.** The Delta Aquarids is an average shower that can produce up to 20 meteors per hour at its peak. It is produced by debris left behind by comets Marsden and Kracht. The shower runs annually from July 12 to August 23. It peaks this year on the night of July 29 and morning of July 30. The crescent moon will set by midnight, leaving dark skies for what should be a good early morning show. Best viewing will be from a dark location after midnight. Meteors will radiate from the constellation Aquarius, but can appear anywhere in the sky.

### July 30 - Mercury at Greatest Eastern Elonga-

**tion.** The planet Mercury reaches greatest eastern elongation of 27.2 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.

### Source: <u>http://www.seasky.org/astronomy/</u> astronomy-calendar-2017.html



## A FAMILY SCRAPBOOK OF THE UNIVERSE





Wispy Remains of Dead Stars. Left: Ring Nebula. Credit: NASA, ESA, C.R. O'Dell (Vanderbilt University), and D. Thompson (Large Binocular Telescope Observatory). Right: Veil Nebula. NASA Astronomy Picture of the Day. Credit & Copyright: Martin Pugh

### Discover the universe with your family and friends!

### **IN THIS GUIDE:**

ANCIENT STARS, ANCIENT STORIES » SKY FEATURE: HERCULES GLOBULAR CLUSTER » TRY THIS! » ACTIVITY: LOOK DEEP INTO THE HEART OF A GLOBULAR CLUSTER » CONNECT TO NASA SCIENCE » Acknowledgements » Appendix: June Star Map

Download the June guide using the following link: <u>https://nightsky.jpl.nasa.gov/docs/07UDGRingVeil.pdf</u>

Always use <u>Adobe Acrobat Reader</u> to view the Guides on a computer.

### NASA'S NIGHT SKY NETWORK - FREE WEBINARS

Each month, the NSN hosts a free online webinar for all registered members of the Night Sky Network.

July, 2017 (Exact Date TBD) 9:00 PM Eastern/ 6:00 PM Pacific NASA Probes the Living Earth with Holli Riebeek - More information coming soon.

> YouTube Playlist : All NSN Astronomy Webinars All Past Webinars and Resources on NSN



Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
25	26	27	28	29	30	1 Sunset: 8:10 PM
2	3	Independence 4	7:00 PM 5 Garvey 8:00 PM Board Meeting	6	7	6:00 PM 8 Outreach - Covina Sunset: 8:09 PM
9	7:30 PM 10 General Meeting	11	7:00 PM 12 Garvey	13	14	Family Night 15 (Private) Sunset: 8:06 PM
16	17	18	7:00 PM 19 Garvey	20	60 Inch Night 21 (Private)	2 Events 22 Sunset: 8:02 PM
23	24	25	7:00 PM 26 Garvey	27	28	2:00 PM Star 29 Party Sunset: 7:57 PM
30	31	1	2	3	4	5

LAAS Members: Please log on to the Night Sky Network (NSN) to view all private and outreach events on the calendar.

Be advised all scheduled events may not be visible on the calendar above.

If you have not registered on the network, please follow this link and register today:

https://nightsky.jpl.nasa.gov/club-apply.cfm?Club\_ID=1344&ApplicantType=Member

### **Club Contact Information**

President: Geovanni Somoza geovanni somoza@hotmail.com Vice President: Tim Thompson timthompson3@verizon.net Treasurer: John O'Bryan, Jr. Treasurer@laas.org Secretary: Spencer Soohoo Secretary@laas.org Outreach Coordinator: Heven Renteria outreach@laas.org Youth Coordinator: James Rochford jcrochford@gmail.com Webmaster: Steve Dashiell Webmaster@laas.org Club Communications: Andee Sherwood Communications@laas.org Mt. Wilson Coordinator: Darrell Dooley mtwilsoncoordinator@laas.org Loaner Program: Dave Sovereign 626-794-0646 Bulletin Editor: Andee Sherwood communications@laas.org



You Tube

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# **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



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Click on one of the images below to view hyperlinks attached for information about astronomy and for fun.

To:

From: The Los Angeles Astronomical Society (LAAS) c/o Griffith Observatory 2800 E. Observatory Road Los Angeles, CA. 90027

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

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