



# THE LOS ANGELES ASTRONOMICAL SOCIETY

# THE BULLETIN

SEPTEMBER, 2020  
VOLUME 94, ISSUE 9

## In This Issue

- The Origins of Planetary Nebulae .....Pages 2-3
- Venus, Morning Star-Evening Star.....Pages 4-5
- Summer Triangle Corner: Altair .....Pages 6-7
- Comet Neowise by Kelley Rich .....Page 8
- Monthly Star Report .....Page 9
- Meet the New Members .....Page 10
- Almanac .....Page 11
- Calendar of Events .....Page 12
- The LAAS Outreach & Club Swag.....Page 13
- Amazon Smiles & Astro Magazines.....Page 14
- Club Contacts & Social Media Links.....Page 15



The Los Angeles Astronomical Society  
Total Solar Eclipse, August 21, 2017  
Rexburg, Idaho

A Blast From The Past ~ The Great American Eclipse, August 21, 2017  
Group Photo - Members of the LAAS traveled to Rexburg, Idaho to enjoy and experience the eclipse.  
Photo credit: Unknown



### New Contact Info?

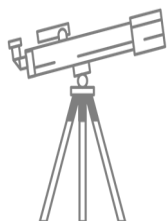
If you have recently moved, changed your email address or phone number, please contact our club secretary at [secretary@laas.org](mailto:secretary@laas.org).

### Membership Renewal Notices

Keep your eyes open for email from the club secretary so you don't miss your renewal notice. Once your membership expires, you may need to reapply.

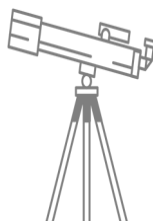
Please send any images or articles for next month's Bulletin to Andee at

[communications@laas.org](mailto:communications@laas.org)



### Upcoming Observing Events:

- Family Night - September 12th.
- Dark Sky Night - September 19th..



### Outreach Event Advisory

Until further notice, all outreach and public event programs are cancelled due to the current pandemic.

**The Garvey Ranch Observatory is closed to the Public.**

# What Are the Origins of Planetary Nebulae?

## By Ray Blumhorst

While the obvious answer would be "planets," these oddballs of astronomy have no past, present, or future physical connections to any planets. Observations made with early telescopes started the mistaken naming that persists to this day.

As with many deep space objects, bigger telescopes, or guided telescopes, give better views and better image capturing. Such advantages contribute to our enhanced understanding of what planetary nebulae are.

Planetary nebulae are actually red giant stars that have reached the end of their hydrogen fusion cycles and have evolved into the next phases of their stellar evolution. The dying star at the center of the planetary nebula has ejected its outer gaseous shell into a glowing shell of ionized gases. The deceased red giant star leaves behind a white dwarf star at the core of the stellar remnant, now a planetary nebula.

Here's the Blinking Planetary Nebula, replete with a white dwarf star at its core. It was imaged with an 11-inch Schmidt-Cassegrain telescope. This planetary nebula has a distinct bluish green color. The Saturn Planetary Nebula, Blue Snowball Planetary Nebula, Cat's Eye Planetary Nebula and others have a similar appearance, while others such as the Helix Planetary Nebula and Ring Planetary Nebula look wildly different



Blinking Planetary Nebula

When comparing those planetary nebulae to the bluish-green planet Uranus (imaged with the same 11-inch telescope), it becomes clearer how the mistaken identity came to be. There is a distinct color and shape resemblance, but alas, nothing more.



Uranus

While a name change for planetary nebulae may not be in the offing any time soon, at least this brief illustrated history of the kerfuffle helps us understand how the misnomer “planetary nebula” originated.

---

**Resources:**

Chandra XRay Observatory: [https://www.nasa.gov/mission\\_pages/chandra/main/index.html](https://www.nasa.gov/mission_pages/chandra/main/index.html)

NASA Neula Index: <https://nasasearch.nasa.gov/search?query=planetary+nebula&affiliate=nasa&utf8=%E2%9C%93>

NOAO: <https://www.noao.edu/jacoby/>

Hubblesite (videos): <https://hubblesite.org/videos/category/34-planetary-nebulas>

# Venus, Morning Star - Evening Star

## By Ray Blumhorst

From the dawn of human life on Earth, mankind has looked to the heavens and wondered at sites and mysteries therein. No less a magnificence that the third brightest object in the sky earned the respect of those early sky gazers. The brightest wandering star, or planetes in Greek, that graced the sight of those ancient eyes in the early evening or early morning sky was none other than the planet Venus. And did they know that the object in the eastern sky, then in the western sky, were one in the same object?

According to Wikipedia:

*"Early Greeks thought that the evening and morning appearances of Venus represented two different objects, calling it Hesperus ("evening star") when it appeared in the western evening sky and Phosphorus ("light-bringer") when it appeared in the eastern morning sky. They eventually came to recognize that both objects were the same planet. Pythagoras is given credit for this realization."*

Coincidentally, Venus is almost the same size as Earth. If mankind ever inhabits Mars, Earth (being inbound of Mars) may become Mars civilization's bright morning and evening stars. But that's another story.

At this current August date, Venus is presently in the eastern sky so it's visible in mornings when clouds and overcast don't obscure it. On August 12<sup>th</sup> it reached its maximum elongation, its maximum distance from the Sun as viewed from Earth. Now Venus is moving back towards the Sun with its illumination percentage increasing daily. Actually, Venus's illumination percentage was increasing before maximum elongation as well.

On April 17, 2020 at 7:50 p.m., Venus (The Evening Star) was 35% illuminated at 41° altitude in the western sky. Its illumination percentage was decreasing daily. The sun preceded Venus setting in the western sky and can be seen illuminating Venus from the bottom right.



On August 8, 2020 at 5:15 a.m. Venus (The Morning Star) was 47.5% illuminated at an altitude of 28° 55' in the eastern sky. Its illumination percentage was increasing daily. The Sun preceded Venus rising in the eastern sky and can be seen illuminating Venus from the bottom left.



From antiquity to the present day, the morning star continues to shine brightly on all humans and the evening star is no less its equal.

---

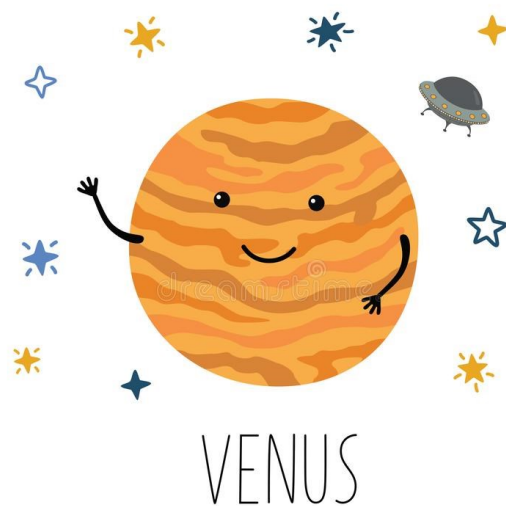
#### Resources

NASA: <https://solarsystem.nasa.gov/planets/venus/in-depth/>

Natural History Museum: <https://www.nhm.ac.uk/discover/planet-venus.html>

Royal Musuems Greenwich: <https://www.rmg.co.uk/discover/explore/interesting-facts-about-venus>

National Geographic: <https://www.nationalgeographic.org/video/venus-101/#:~:text=Named%20after%20the%20ancient%20Roman,star%20in%20the%20night%20sky.>



# Summer Triangle Corner: Altair

By David Prosper



**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](https://nightsky.jpl.nasa.gov) to find local clubs, events, and

Altair is the final stop on our trip around the Summer Triangle! The last star in the asterism to rise for Northern Hemisphere observers before summer begins, brilliant Altair is high overhead at sunset at the end of the season in September. Altair might be the most unusual of the three stars of the Triangle, due to its great speed: this star spins so rapidly that it appears “squished.”

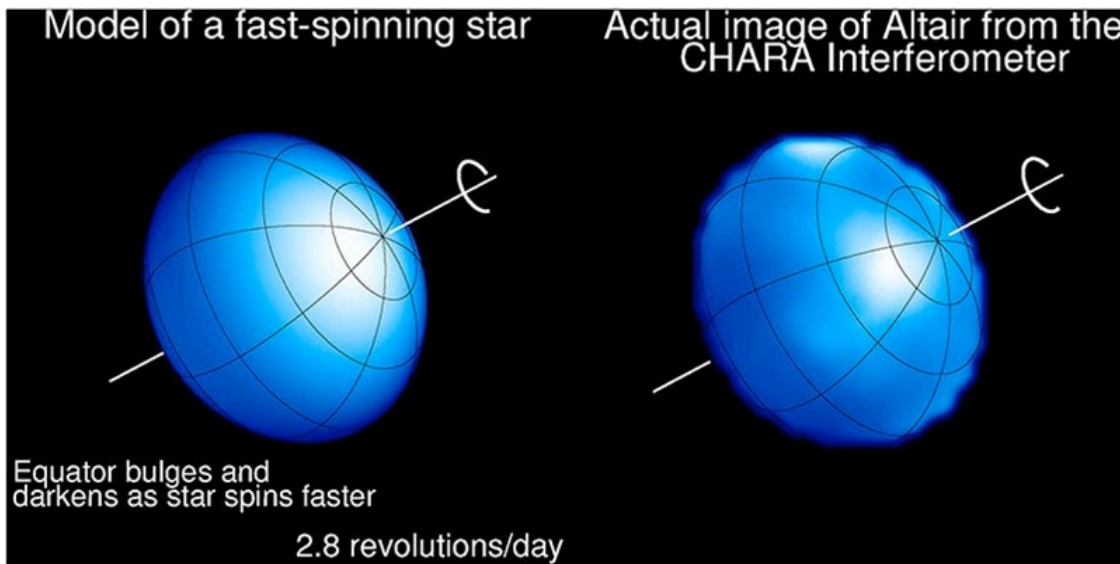
A very bright star, Altair has its own notable place in the mythologies of cultures around the world. As discussed in our previous edition, Altair represents the cowherd Niulang in the ancient Chinese tale of the “Cowherd and the Weaver Girl.” Altair is the brightest star in the constellation of Aquila the Eagle; while described as part of an eagle by ancient peoples around the Mediterranean, it was also seen as part of an eagle by the Koori people in Australia! They saw the star itself as representing a wedge-tailed eagle, and two nearby stars as his wives, a pair of black swans. More recently one of the first home computers was named after the star: the Altair 8800.

Altair’s rapid spinning was first detected in the 1960s. The close observations that followed tested the limits of technology available to astronomers, eventually resulting in direct images of the star’s shape and surface by using a technique called interferometry, which combines the light from two or more instruments to produce a single image. Predictions about how the surface of a rapidly spinning massive star would appear held true to the observations; models predicted a squashed, almost “pumpkin-like” shape instead of a round sphere, along with a dimming effect along the widened equator, and the observations confirmed this! This equatorial dimming is due to a phenomenon called gravity darkening. Altair is wider at the equator than it is at the poles due to centrifugal force, resulting in the star’s mass bulging outwards at the equator. This results in the denser poles of the star being hotter and brighter, and the less dense equator being cooler and therefore dimmer. This doesn’t mean that the equator of Altair or other rapidly spinning stars are actually dark, but rather that the equator is dark in comparison to the poles; this is similar in a sense to sunspots. If you were to observe a sunspot on its own, it would appear blindingly bright, but it is cooler than the surrounding plasma in the Sun and so appears dark in contrast.

As summer winds down, you can still take a Trip Around the Summer Triangle with this activity from the Night Sky Network. Mark some of the sights in and around the Summer Triangle at: [bit.ly/TriangleTrip](https://bit.ly/TriangleTrip)

Discover more about brilliant stars and their mysteries at [nasa.gov](https://nasa.gov).

The image on the right was created using optical interferometry: the light from four telescopes was combined to produce this image of Altair's surface. Image credit: Ming Zhao. More info: [bit.ly/altairvsmodel](http://bit.ly/altairvsmodel)



Altair is up high in the early evening in September. Note Altair's two bright "companions" on either side of the star. Can you imagine them as a formation of an eagle and two swans, like the Koori?

# Comet Neowise

## By Kelley Rich



This is my second attempt, shot on 7/22 in a cow pasture in Ventura County, CA with the Sony a7riii & Sony 85mm G-Master f1.4 lens for 8 seconds each at ISO 640. I do not own a star tracker mount which slowly rotates and allows each image to maintain sync with the earth's rotation, so I piggybacked on an astronomy-enthusiast's old celestron powerstar C8 from the late '80s with a fork mount on an equatorial wedge, using a basic clock drive for tracking. This was post-processed using 13 images stacked in Starry Lightroom Stacker and processed in Adobe Lightroom CC.

*"I'm AB experienced photographer but new at Astrophotography, and after my encounter with Neowise, I am hooked! I would like to join your group and will apply. Meanwhile, this is my shot. " - Kelley Rich*



# Monthly Star Report

## By Dave Nakamoto

Jupiter and Saturn continue to dominate the night. You'll see both towards the south, going east to west as the sky turns. As they move towards their extremely close encounter on December 21<sup>st</sup>, the solar angle shifts, so the Sun appears to shine off to one side of both planets. On Jupiter, the only effect is to make the planet look slightly gibbous as the months go by. For Saturn, it also appears slightly gibbous, but there is the added effect of the planet's shadow appearing on one side of the intersection of the rings with the planet, as the former moves behind Saturn.

As the Jovian or Galilean moons dance around Jupiter, they occasionally will pass in front of it, and that includes their shadows. It can be difficult to see Io or Europa on Jupiter because they're similar in brightness to Jupiter, especially Europa. Ganymede and Callisto are far easier, because they're larger and darker, so they stand out when they're in front of Jupiter's disk. The same goes for their shadows.

The table here shows when a satellite or its shadow crosses in front of Jupiter. Only those events that happen before midnight are listed, and only the start of the transit event is listed. The first column is the date in September, the second the time in PM, and the third the type of event.

The Ganymede shadow event on the 26<sup>th</sup> is the most easily seen one, as is the Callisto shadow even at the end of September on the 30<sup>th</sup>, but in both cases you'll probably need magnifications of 100x or more to really see them.

6	8:20	Io
	9:25	Io shadow
13	10:10	Io
	11:20	Io shadow
18	7:10	Europa shadow
22	6:30	Io
	7:40	Io shadow
25	7:10	Europa
	9:40	Europa's shadow
26	7:40	Ganymede shadow
29	8:20	Io
	9:40	Io shadow
30	6:10	Callisto shadow

Mars is slowly making an appearance in our evening skies. It shows up around 10pm as September begins, and by the end of the month it will be higher and brighter to the unaided eye, and larger in telescopes. It is quickly approaching its maximum size of 22 arc-minutes, which will occur on October 13<sup>th</sup>. Since the Martian day is slightly longer than earth's, if you observe every night at the same time, you'll see a slight rotation from your previous view. The larger your scope, both in terms of aperture and focal length, the better your view.

The Moon's phases in September are:

Full Moon – 2<sup>nd</sup>

Last Quarter – 10<sup>th</sup>

New Moon – 17<sup>th</sup>

First Quarter – 24<sup>th</sup>

The Los Angeles Astronomical Society, of which the author is a long-standing member, runs the Garvey Ranch park observatory. Normally it is open to the public on Wednesday nights from 7:00 PM to 10:00 PM. However, due to concerns about the Covid-19 virus, the building housing the observatory is closed to the public at the time this article was composed. As soon as the situation changes, I will post it here.

*David Nakamoto has been observing the heavens through various scopes since he was in the 5<sup>th</sup> grade. You can contact Dave by email at: [dinakamoto@hotmail.com](mailto:dinakamoto@hotmail.com).*



# Meet The New Members

## Welcome to the LAAS!



Jia Peng

The Thicke Family

Phil Sulpin

David Feldmar

.Mark Teran

Victor Higareda

Michael Littleton

Juan Olivarez

The Gangadharan Family

## LAAS Board Meetings

Our LAAS Board Meetings take place once a month at the Garvey Ranch Park Observatory. You can find the dates for these meetings on our event calendar. All members are welcome to attend all Board meetings. These meetings begin at 8 PM.—**Note: All meetings will be held virtually until the observatory re-opens.**

All current members may listen to recorded meetings by logging on to our website at LAAS.org and clicking on the “Members Only” tab to find the files. Contact Spencer at [laassecretary@laas.org](mailto:laassecretary@laas.org) for further information

## 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.

Participating at one of our outreach events is another fine and fulfilling opportunity. This is YOUR club. Don't sit back and let other members do the work and have all the fun! Speak with a club officer and find out how you can volunteer and get more involved in the LAAS as a member. Currently, there are no volunteer opportunities available.

## Time To Renew Your Membership?

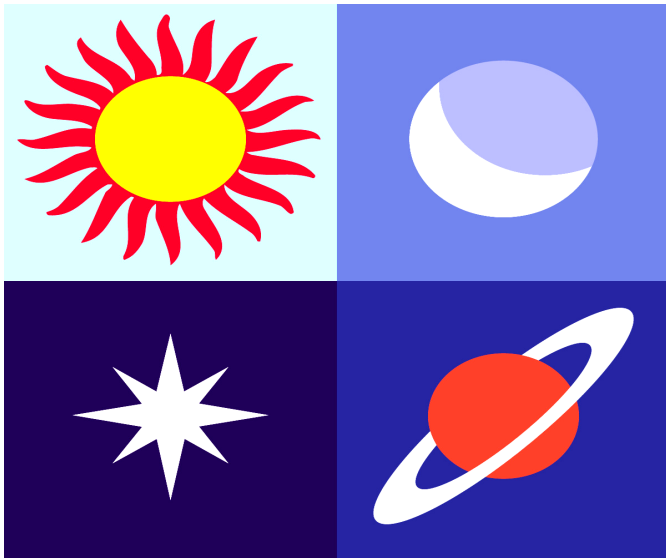
Please remember to renew your membership once you receive notice from the Club Secretary in your email inbox. Use this link to learn how to renew your membership:

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

Please send any new contact information to the club secretary at [secretary@LAAS.org](mailto:secretary@LAAS.org).



# Almanac



**September 2 - Full Moon.** The Moon will be located on the opposite side of the Earth as the Sun and its face will be fully illuminated. This phase occurs at 05:23 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.

**September 11 - 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 17 - New Moon.** The Moon will be located on the same side of the Earth as the Sun and will not be visible in the night sky. This phase occurs at 11:00 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 22 - September Equinox.** The September equinox occurs at 13:30 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.

**Source:** <http://www.seasky.org/astronomy/astronomy-calendar-2020.html>



**Additional Night Sky Observation Resources::**

EarthSky.org: <https://earthsky.org/tonight>

Time and Date.com: <https://www.timeanddate.com/astronomy/night/>

Griffith Observatory: <http://www.griffithobservatory.org/sky/skyreport.html>

The Night Sky Planner: <https://nightsky.jpl.nasa.gov/planner.cfm>

Sky and Telescope: <https://skyandtelescope.org/observing/>

Astronomy Magazine: <https://astronomy.com/observing>

The Sky Live: <https://theskylive.com/guide>

# September 2020

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

## 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](mailto: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](https://nightsky.jpl.nasa.gov/club-eventrequest.cfm?Club_ID=1344)

## LAAS Club Swag

### LAAS JACKETS, T-SHIRTS, AND CAPS

Share your club spirit with the public and wear your club colors to help identify you as a member of the LAAS today by ordering a new jacket, t-shirt or cap.

To order club swag, please use the following link:

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



## Amazon Smiles

The LAAS is now listed on Amazon Smiles. When you purchase any goods on Amazon.com, Amazon will donate a small percentage of the funds they receive from you, back to the LAAS. Here's some information to help bring in funds for our club projects:

What is AmazonSmile?

AmazonSmile is a simple and automatic way for you to support your favorite charitable organization every time you shop, at no cost to you, with the added bonus that Amazon will donate a portion of the purchase price to your favorite charitable organization., such as the LAAS!

Learn more by following this link:

<http://smile.amazon.com/>



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

John O'Bryan, Jr.

Treasurer

## Astronomy Magazine Discounts

Discounts for astronomy magazines can be found on the internet. Look for the best deals possible. Send a copy of your LAAS membership card with your check or payment to receive a club member discount.

**Astronomy**  
magazine

As a member of the Night Sky Network, you may use the above link to renew your Astronomy Magazine subscription (or enter a new subscription) at the club discount rate. If this is a renewal, Astronomy Magazine will match your entered name and address and extend your subscription. For inquiries, please contact Astronomy Magazine customer service & sales at 1-800-533-6644.

[Click here to subscribe to Sky and Telescope Magazine.](#)



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

Subscribe or renew to the McDonald Observatory's StarDate Magazine and receive a special discount. Go to this page and press "Add to Cart" under the kind of subscription you want:

<http://stardate.org/store/subscribe>

Then, on the Checkout form, enter "network" in the Coupon Code box.



## Club Contact Information

President: Curtis Byrom

[Cbyrom484@yahoo.com](mailto:Cbyrom484@yahoo.com)

Vice President: Alecia Hurst

hurst.alecia@gmail.com

Treasurer: John O'Bryan, Jr.

treasurer@laas.org

Secretary: Spencer Soohoo

secretary@laas.org

Outreach Coordinator: Heven Renteria

outreach@laas.org

Club Communications: Andee Sherwood

communications@laas.org

Mt. Wilson Coordinator: Darrell Dooley

mtwilsoncoordinator@laas.org

Bulletin Editor: Andee Sherwood

communications@laas.org

## Club Contacts

### Club Phone Numbers

LAAS Message Phone:

213- 673-7355 (Checked daily)

Griffith Observatory:

213-473-0800

Sky Report:

213-473-0880

Lockwood Site:

661-245-2106

Not answered, arrange  
time with caller.

Outgoing calls – Collect or calling card only.



Follow us on social media by clicking  
on one of the images below



Instagram



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

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

YouTube

twitter

**The Los Angeles  
Astronomical Society**  
2800 E. Observatory Road  
Los Angeles, CA 90027

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

Visit our web site at  
[www.LAAS.org](http://www.LAAS.org)

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

PLACE  
STAMP  
HERE

**To:**