The Sonora Astronomical Society's
SONORAN STARRY NIGHTS

APRIL 2025

April Meeting Details

DATE: April 12th, 2025
MEETING TIME: 2:30 PM
PLACE: Sahuarita Library & Zoom
MEETING SCHEDULE:
(2:15 PM ZOOM Waiting Room Available)
2:30 Meeting Intro and Welcome
2:40 Featured Presentation Followed by Club Activities/Business

Next Member Star Parties

DATE: Thursday, April 24th, 2025
TIME: 6:45 PM *NEW LOCATION*
PLACE: Madera Canyon Parking Lot
(300 ft past 9 mile marker, Madera Canyon Rd)

- LOOKING AHEAD -
THE FOLLOWING STAR PARTY WILL BE:
DATE: Thursday, May 22nd, 2025
TIME: 7:00 PM
PLACE: Madera Canyon Parking Lot

NOTE: If you have a telescope that you don't know how to use, or are looking to buy a telescope and want to compare different telescopes, join us at a star party and we can give you some help.

UPCOMING EVENTS

NEXT CLUB MEETING
DATE: May 17th, 2025
LOCATION: Sahuarita Library & Zoom
TIME: 2:30 PM (in person + Zoom)
Speaker: T B A
Subject: T B A

Apri Presentation

Speaker: Speaker and topic will be announced at the meeting

Subject: To be announced at the Meeting
Abstract: .
Biography:

Did you know?

NASA's Night Sky Network has a live YouTube Webinar each month (and a video that can be viewed following the live presentation) featuring an interesting array of subjects.
.
April16th topic is:
Psyche: Exploration of a Metal World with Dr. David Williams

May 15th topic is:
Placing Worlds and Suns in Context with Dr Eric Mamajek.

Details and the YouTube link can be found on our website, News & Letters page, and on the Events page/Calendar @ **https://sonoraastronomicalsociety.org/**

You can also search the internet for YouTube, then Night Sky Network, for the videos.

SONORAN STARRY NIGHTS

PRESIDENTS NOTES

Greetings everyone,

Our April meeting will take place on April 12th at the Sahuarita library (670 Sahuarita Rd). There is parking behind the library. The meeting room is just to the left as you enter the front door. The meeting will officially start at 2:30pm this month with ZOOM login available by 2:15pm.

We no longer have access to Canoa Preserve Park for our club star parties now. We are now using our new site on the way up to Madera Canyon. We only had two of us show up for the March star party. The sky was again great. There is a map to the site available on our website. I will have a sign at the entrance to the road into the site. Our April club star party is scheduled for the 24th. If you have any questions about the site, let me know.

Stay safe,

John Dwyer
President

IN THIS ISSUE

MEMBER EQUIPMENT FOR SALE

Have a telescope or other astronomy equipment for sale? Contact John Dwyer with your item(s) to get them listed here.

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The SAS website has a good one-page article from Sky & Telescope that can help get you started. Copy and paste this link:

https://sonoraastronomicalsociety.org/newsletters/

Basic monthly star charts are now available. Look on the website Home page yellow banner.

The website also has a list of suggestions of Planetarium Apps for your phone, several FREE!

SONORAN STARRY NIGHTS

THE APRIL SKY

SKY HIGHLIGHTS FOR APRIL

The evening night sky is quickly losing great planets this month. Only two are left. **Mars** is about due south at sunset this month but its disk size (now about 7.5") as well as its magnitude (now down to about mag 0.5) continue to drop. **Jupiter** is now in the western sky at sunset at mag -2. **Saturn** is now very low in the morning eastern sky. **Neptune** is also now in the morning sky along with **Venus** and **Mercury.** The four will be very close together by mid-month low in the eastern sky before sunrise. **Uranus** is now too close to the Sun for viewing and will reach conjunction with the Sun next month.

Last month's Total Lunar Eclipse almost eluded us. The sky cleared shortly after totality began. It was almost overhead by then, a real neck-strainer. It appeared bright red.

There is one comet recently discovered which is reportedly at just under mag 10. This was discovered by the Indian Sky Watch Array Network (SWAN). No official designation has been assigned to the comet yet, but it is assumed it will be designated C/2025 F2 SWAN. It is currently in Pegasus but no firm coordinates are available.

If you have any solar viewing equipment, the Sun is extremely active now as it has officially reached maximum. As it is getting a little cooler now, break out the solar equipment and take a peek.

APRIL MOON/SUN TIMES

DATE	M-Rise	M-Set	M-Phase	Sun-set	Star Party
Tue 04/01	8:12	23:03		18:44	
Wed 04/02	9:02	-----		18:44	
Thu 04/03	9:59	0:14		18:45	
Fri 04/04	11:02	1:16	1st Qtr	18:46	
Sat 04/05	12:07	2:09		18:47	
Sun 04/06	13:11	2:52		18:47	
Mon 04/07	14:13	3:28		18:48	
Tue 04/08	15:12	3:59		18:49	
Wed 04/09	16:09	4:26		18:49	
Thu 04/10	17:04	4:51		18:50	
Fri 04/11	17:58	5:15		18:51	
Sat 04/12	18:53	5:40	Full	18:51	SAS Meeting
Sun 04/13	19:49	6:05		18:52	
Mon 04/14	20:47	6:34		18:53	
Tue 04/15	21:46	7:06		18:53	
Wed 04/16	22:44	7:44		18:54	
Thu 04/17	23:41	8:28		18:55	
Fri 04/18	-----	9:19		18:56	
Sat 04/19	0:33	10:17		18:56	
Sun 04/20	1:20	11:19	3rd Qtr	18:57	
Mon 04/21	2:02	12:24		18:58	
Tue 04/22	2:39	13:31		18:58	
Wed 04/23	3:12	14:37		18:59	
Thu 04/24	3:43	15:45		19:00	S.A.S. SP
Fri 04/25	4:14	16:55		19:01	
Sat 04/26	4:46	18:07		19:01	
Sun 04/27	5:21	19:22	New	19:02	
Mon 04/28	6:02	20:38		19:03	
Tue 04/29	6:49	21:53		19:03	
Wed 04/30	7:45	23:02		19:04	
					(S)=Solar
					(S)=Solar

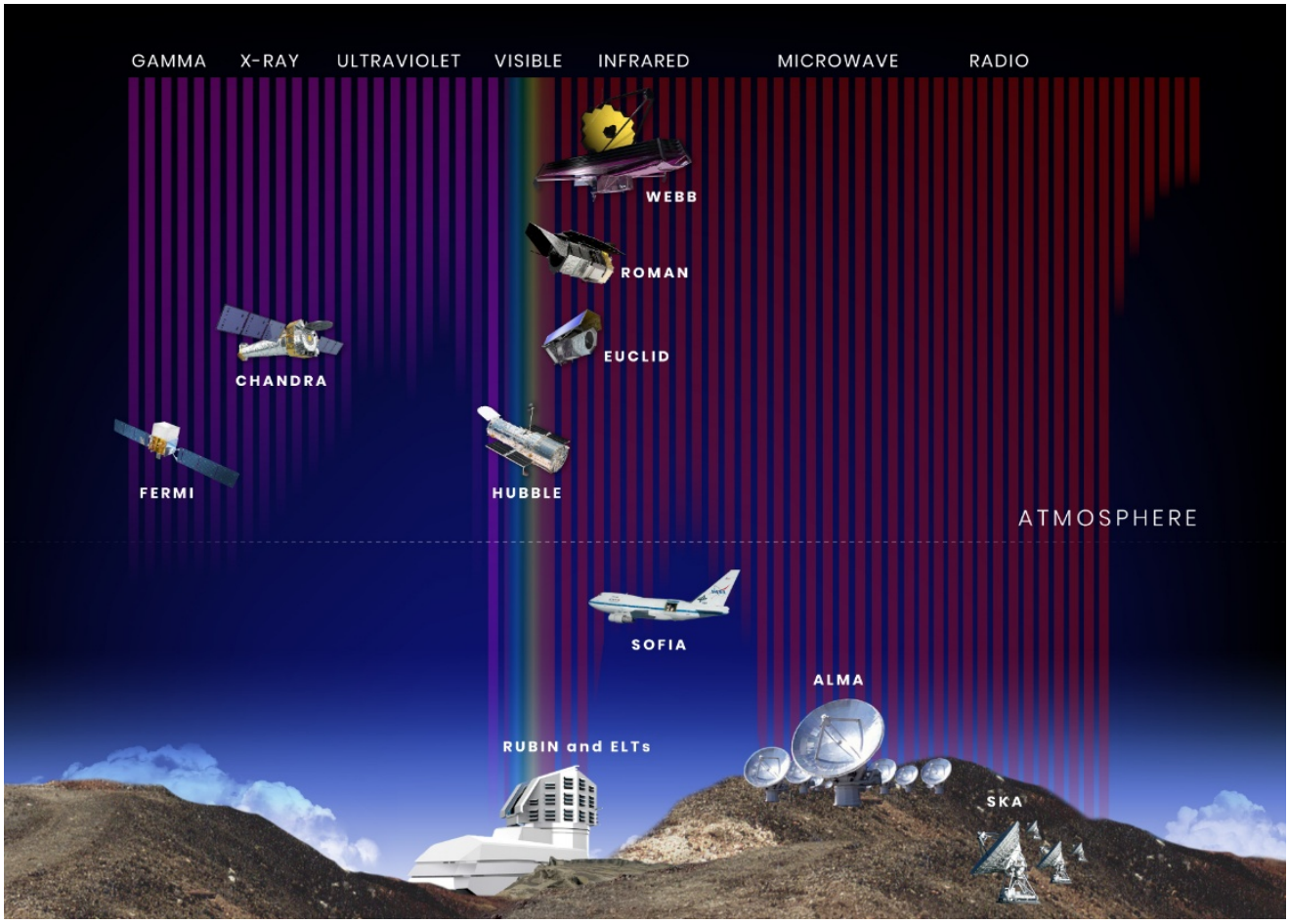
This article is distributed by NASA's Night Sky Network (NSN).

April's Night Sky Notes: Catch the Waves!

By Kat Troche

The Electromagnetic Spectrum

If you've ever heard the term "radio waves," used a microwave or a television remote, or had an X-ray, you have experienced a broad range of the electromagnetic spectrum! But what is the electromagnetic spectrum? According to Merriam-Webster, this spectrum is *"the entire range of wavelengths or frequencies of electromagnetic radiation extending from gamma rays to the longest radio waves and including visible light."* But what does **that** mean? Scientists think of the entire electromagnetic spectrum as many types of light, only some that we can see with our eyes. We can detect others with our bodies, like infrared light, which we feel as heat, and ultraviolet light, which can give us sunburns. Astronomers have created many detectors that can "see" in the full spectrum of wavelengths.



This illustration shows the wavelength sensitivity of a number of current and future space- and ground-based observatories, along with their position relative to the ground and to Earth's atmosphere. The wavelength bands are arranged from shortest (gamma rays) to longest (radio waves). The vertical color bars show the relative penetration of each band of light through Earth's atmosphere. Credit: NASA, STScI

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Telescope Types

While multiple types of telescopes operate across the electromagnetic spectrum, here are some of the largest, based on the wavelength they primarily work in:

Radio: probably the most famous radio telescope observatory would be the Very Large Array (VLA) in Socorro County, New Mexico. This set of 25-meter radio telescopes was featured in the 1997 movie Contact. Astronomers use these telescopes to observe protoplanetary disks and black holes. Another famous set of radio telescopes would be the Atacama Large Millimeter Array (ALMA) located in the Atacama Desert in Chile. ALMA was one of eight radio observatories that helped produce the first image of supermassive black holes at the center of M87 and Sagittarius A* at the center of our galaxy. Radio telescopes have also been used to study the microwave portion of the electromagnetic spectrum.

Infrared: The James Webb Space Telescope (JWST) operates in the infrared, allowing astronomers to see some of the earliest galaxies formed nearly 300 million years after the Big Bang. Infrared light allows astronomers to study galaxies and nebulae, which dense dust clouds would otherwise obscure. An excellent example is the Pillars of Creation located in the Eagle Nebula. With the side-by-side image comparison below, you can see the differences between what JWST and the Hubble Space Telescope (HST) were able to capture with their respective instruments.

NASA's Hubble Telescope captured the Pillars of Creation in 1995 and revisited them in 2014 with a sharper view. Webb's infrared image reveals more stars by penetrating dust. Hubble highlights thick dust layers, while Webb shows hydrogen atoms and emerging stars. You can find this and other parts of the Eagle Nebula in the Serpens constellation. Credit: NASA, ESA, CSA, STScI, Hubble Heritage Project (STScI, AURA)

Visible: While it does have some near-infrared and ultraviolet capabilities, the Hubble Space Telescope (HST) has primarily operated in the visible light spectrum for the last 35 years. With over 1.6 million observations made, HST has played an integral role in how we view the universe. Review Hubble's Highlights here.

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The Crab Nebula, located in the Taurus constellation, is the result of a bright supernova explosion in the year 1054, 6,500 light-years from Earth. Credit: X-ray: NASA/CXC/SAO; Optical: NASA/STScI; Infrared: NASA/JPL/Caltech; Radio: NSF/NRAO/VLA; Ultraviolet: ESA/XMM-Newton

X-ray: Chandra X-ray Observatory was designed to detect emissions from the hottest parts of our universe, like exploding stars. X-rays help us better understand the composition of deep space objects, highlighting areas unseen by visible light and infrared telescopes. This image of the Crab Nebula combines data from five different telescopes: The VLA (radio) in red; Spitzer Space Telescope (infrared) in yellow; Hubble Space Telescope (visible) in green; XMM-Newton (ultraviolet) in blue; and Chandra X-ray Observatory (X-ray) in purple. You can view the breakdown of this multiwavelength image here.

Try This At Home

Even though we can't see these other wavelengths with our eyes, learn how to create multiwavelength images with the Cosmic Coloring Compositor activity and explore how astronomers use representational color to show light that our eyes cannot see with our Clues to the Cosmos activity.

SONORAN STARRY NIGHTS

S.A.S. CLUB OFFICERS

OFFICE/POSITION	NAME	PHONE NO.
Chairman of the Board	Open	
President	John Dwyer	(520) 393-3680
Secretary	Michael Moraghan	(520) 399-3352
Treasurer	John McGee	(520) 207-6188
Star party Coordinator	Open	(520) 303-6920
Newsletter Editor	Joe Castor	(**6**20) 584-4454
Webmaster	Joe Castor	(**6**20) 584-4454
ALCOR* (Currently Inactive)	Inactive	(520) 396-3576
NSN** Representative	Open	(520) 303-6920
Past President Emeritus	Open	
*Astronomical League		
**Night Sky Network		

WHY JOIN SAS

1. SAS Family Membership Fee is only $25.00 per year.
2. SAS monthly newsletter “The Sonoran Starry Nights.”
3. Top-quality astronomy lectures by local astronomers!
4. SAS Discount for Astronomy Magazine $34.00 for 1yr or $60.00 for 2 yr renewed through our treasurer.
5. SAS Discount subscription rate for Sky & Telescope Magazine — self-renewed.
6. RASC Observer’s Handbook at a discount, $30.00.
7. SAS T-Shirts for sale for $10.00—M, L, XL.
8. Member of International Dark-sky Association (IDA).
9. SAS Discount for Astronomy 2020 Calendar $10.00
10. SAS monthly Member Star Parties.
11. SAS Telescope and astronomy book loan programs.
12. SAS outreach to astronomy education in schools.
13. SAS fellowship with other amateur astronomers!

CLUB DUES

Dues (family or individual) are $25 annually, payable each year in the month you initially joined the club. You will receive a reminder in the monthly newsletter e-mail of your due date. You can either pay at the club meeting or mail it to the club’s address (S.A.S., P.O. Box 1081, Green Valley, AZ, 85622).

SAS WEBSITE

If you want to keep up-to-date with club activities, such as star parties, etc., check out our website (and Calendar) at:
HTTPS://sonoraastronomicalsociety.org

SAS STATISTICS & FINANCES

Lifetime Members:	1
Individual & Family Members:	104
Total Membership:	**105**

Bank Balance as of Feb 28:	$ 1,285.61
Deposits / (D/Ws):	$ 175.00 / ($.35.87)
Bank Balance as of Mar 31:	**$ 1,424.74**

SONORAN STARRY NIGHTS

LOCAL ASTRO-IMAGING GROUP: Sonoran Desert Astro Imagers (SDAI), Larry Phillips, Coordinator

Are you interested in Astrophotography or are you currently involved in imaging the skies? If so, you are invited to join the Sonoran Desert Astro Imagers group. Our meetings focus on improving our skills, helping each other, workshops, and field trips. We meet on Thursdays at 9 AM. The meetings are on Zoom, except once-a-month we get together in-person at the Quail Creek Conference Center. Email notifications are sent to members before each meeting.
Please send your Name and E-mail address to my address below and we'll include you in the emailing notices of monthly meetings; "the when and where meeting notice." Do you have any questions? If so, call me (Larry Phillips) at (520) 777-8027 or email to llp41astro@cox.net. Clear Skies! Larry Phillips

ABOUT THE ASTRONOMICAL LEAGUE

While SAS is no longer an active member of the Astronomical League, a SAS member may join the Astronomical League as an at-large member. What are the advantages to joining the AL?
1. You can receive various observing awards by joining an "observing club" and observing the required number of objects. There are all levels of clubs from beginner to advanced, viewing constellations to deep-sky objects and using either your naked eyes, binoculars, or a telescope. Contact our ALCOR rep Burley Packwood for details.
2. You can get a 10% discount on books purchased through the AL Book Service.
3. You will receive the AL's quarterly "Reflector" magazine which keeps you up to date on all the AL activities.
More info at www.astroleague.org

SAS IS A MEMBER OF IDA

SAS is proud to be a member of the International Dark-Sky Association, supporting the reduction in light pollution around the U.S. and the world.
More info at www.darksky.org

SAS NON-PROFIT STATUS

The Sonora Astronomical Society is a 501 (c) (3) nonprofit charitable organization! SAS has a CERTIFICATE OF GOOD STANDING from the State of Arizona Corporation Commission!

MAGAZINE SUBSCRIPTIONS

To renew your Sky and Telescope Magazine at the Club Rate, you can go directly to their website, or to order it new, or to order or renew Astronomy Magazine, contact the Club Treasurer.

OUR SPONSORS