

# THE ASTRONOMERS



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April 2025

A word from your editor by  
Sapavith 'Ort' Vanapruck

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It was fun following the launch of SpaceX Dragon Crew 10 after the delay on Friday, 3/14/2025. It then docked successfully with the ISS on Saturday, 3/15/2025. Two days later (Monday, 3/17/2025) with Crew 9 astronauts plus 2 astronauts from Boeing Starliner. Dragon undocked from ISS and splashed down safely on earth on Tuesday, 3/18/2025.

The game plan for Total Lunar Eclipse (the only eclipse visible to Hawaii in 2025) on Thursday, 3/13/2025, went down the drain with the cloudy night. I had to take photos of the moon whenever there was a hole in the cloud. Luckily, I had enough photos to create a composite photo of Lunar Eclipse 2025.



As we move closer to the summer, the request for a school star party will surely slow down until next fall. That does not mean we will not have a request. There will be other organizations like Boy Scouts or  
*(Continued on page 11)*

## Upcoming Events:

- The next Board meeting is Sun., Mar 30<sup>th</sup> 3:30 PM. **(Zoom Meeting)**
- The next meeting is on Tue., Apr 1<sup>st</sup> at the Bishop Museum at 7:30 PM. —**Hybrid (In person and Zoom) Meeting**
- Bishop Museum's planetarium show "Star Tonight" is every 3rd Friday, 4/18/2025, of the month at 7:00 PM

## President's Message

### April 2025

The probability of Asteroid 2024 YR4 (estimated at 40-100 m diameter) impacting Earth in 2032 has been reduced from a few percent to less than one percent. This is typical for potentially hazardous objects. When they are first discovered, unless pre-discovery images are found from other parts of the orbit, the orbital determination is based on a few images from a small part of the orbit. There is inherent uncertainty in any observation based on the smallest units of space and time involved in the observation (e.g., pixel size and image timing). When extrapolated to a distant part of the orbit, the uncertainties of the path can be large.

To my knowledge, no potentially hazardous asteroid (with the exception of the small number of small objects that have actually entered Earth's atmosphere that were detected shortly before impact) has ever been determined to have an orbit that would result in an impact with Earth. It's just that the initial uncertainties are great enough where the orbit nears Earth that a collision is possible. As the object continues along its orbit and more positions are determined, the uncertainty is reduced. Eventually, even if the projected orbit never changes, the uncertainty is reduced to the point that the possibility of a collision with Earth is excluded.

Someday, an object that could do serious damage to Earth will be found on an orbit that will likely cause a collision with Earth. The recent DART (Double Asteroid Redirection Test) mission demonstrated that an impact can alter an asteroid's orbit (Asteroid Didymos's satellite Dimorphos). More such tests will be necessary before we can be confident that we can deflect the path of a dangerous object to avoid an impact. An alteration that doesn't go as planned could actually increase the danger. Variables that matter include the mass and composition of the asteroid.

The longer in advance that we detect the danger, the earlier we could attempt to alter the orbit, and the less energy it would take to accomplish the goal. If we continue to run deflection tests and keep searching for potentially hazardous objects, we increase our chance of avoiding serious damage from an asteroid impact that will surely come someday if we do nothing.

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# Observer's Notebook—April 2025 by Ort










## Planets Close to the Moon Times are Hawaii Standard Time

Apr 1, 2h, Moon 4.7° NNW of Uranus; 43° from Sun in evening sky; magnitudes -7.9 and 5.8  
Apr 2, 14h, Moon 5.5° N of Jupiter; 63° from Sun in evening sky; magnitudes -9.0 and -2.1  
Apr 5, 11h, Moon 2.13° NNE of Mars; 99° from Sun in evening sky; magnitudes -10.4 and 0.5  
Apr 24, 17h, Moon 2.02° NNW of Saturn; 38° from Sun in morning sky; magnitudes -7.5 and 1.2  
Apr 24, 18h, Moon 2.12° SE of Venus; 37° and 38° from Sun in morning sky; magnitudes -7.5 and -4.5  
Apr 25, 12h, Moon 3.9° NNW of Mercury; 27° from Sun in morning sky; magnitudes -6.7 and 0.3  
Apr 28, 15h, Moon 4.7° NNW of Uranus; 18° and 17° from Sun in evening sky; magnitudes -5.9 and 5.8  
Apr 30, 8h, Moon 5.4° N of Jupiter; 41° from Sun in evening sky; magnitudes -7.7 and -2.0

## Other Events of Interest Times are Hawaii Standard Time

Apr 5, 4h, Moon, Mars, and Pollux within circle of diameter 4.43°; about 98° from the Sun in the evening sky; magnitudes -10, 1, 1  
Apr 16, 19h, Mercury, Saturn, and Neptune within circle of diameter 4.32°; about 28° from the Sun in the morning sky; magnitudes 1, 1, 8  
Apr 21, 14h, Lyrid meteors; ZHR 18; 1 day after Last Quarter Moon  
Apr 24, 20h, Moon, Saturn, and Neptune within circle of diameter 3.73°; about 36° from the Sun in the morning sky; magnitudes -7, 1, 8  
Apr 24, 20h, Moon, Venus, and Saturn within circle of diameter 4.09°; about 37° from the Sun in the morning sky; magnitudes -7, -5, 1  
Apr 25, 0h, Moon, Venus, and Neptune within circle of diameter 4.86°; about 36° from the Sun in the morning sky; magnitudes -7, -5, 8  
Apr 30, 8h, Venus, Saturn, and Neptune within circle of diameter 3.91°; about 41° from the Sun in the morning sky; magnitudes -5, 1, 8

## Planets in April

|  |   |  |
|--|---|--|
|  <b>Mercury</b><br>is emerging into the morning sky as it approaches greatest elongation west. From Honolulu, it is not observable – it will reach its highest point in the sky during daytime and is no higher than 10° above the horizon at dawn. |  <b>Venus</b><br>recently passed in front of the Sun at inferior solar conjunction. From Honolulu, however, it is visible in the dawn sky, rising at 04:22 (HST) – 1 hour and 47 minutes before the Sun.       |  <b>Mars</b><br>is currently an early evening object. From Honolulu, it will become visible at around 19:19 (HST), 84° above your western horizon, as dusk fades to darkness. |
|  <b>Jupiter</b><br>will soon pass behind the Sun at solar conjunction. From Honolulu, it will become visible at around 19:04 (HST), 47° above your western horizon, as dusk fades to darkness.   |  <b>Saturn</b><br>recently passed behind the Sun at solar conjunction. From Honolulu, it is not observable.   |  <b>Uranus</b><br>will soon pass behind the Sun at solar conjunction. From Honolulu, it is not observable.   |
|  <b>Neptune</b><br>recently passed behind the Sun at solar conjunction. From Honolulu, it is not observable.  |  <b>Pluto</b><br>(Dwarf Planet)<br>is visible in the dawn sky, rising at 01:56 (HST) and reaching an altitude of 36° above the south-eastern horizon before fading from view as dawn breaks at around 05:15. |  <b>4 Vesta</b><br>(Asteroid)<br>is visible in the morning sky, becoming accessible around 21:46, when it reaches an altitude of 21° above your eastern horizon.            |

# Meeting Minutes

H.A.S. Secretary

*March 4<sup>th</sup> 2025 7:30 PM (Bishop Museum Planetarium and Zoom Meeting)*

*Andy Stroble*

President Chris Peterson called the meeting to order at 7:30.

Last month's minutes approved without objections

March 13th Lunar Eclipse totality around 8:30-9:30 pm. A shallow dip into earth's umbra.

New people, Maya Shanahan, from New Jersey in the Islands for a week, joined us. And Justin and 5 year old Mara attended as well.

President Chris informed all of the first private landing on the Moon, of the Blue Ghost lander by the Firefly organization. It is part of the CLPS, or Commerical Lunar Payload Service, program by NASA. We watched a video of the landing, including a stone that was ejected. He also announced that Dillingham Airfield we revert to a 7:00pm gate closing time in the spring. Science Fair is coming up, so we need judges for our awards.

Star Party Coordinator Heather Nolan reported that there are requests from Aiea High School for participation in a daytime event on April 4th or 5th, and by the Boy Scouts for Onizuka Day at UH West Oahu.

AstroNews editor Ort reported on progress with Club T-shirts, and the interest form that was linked in the meeting invite e-mail. He also shared some tips on planning to photograph a lunar eclipse, using the Time and Date website and other resources for exposure settings. (See the club Discord channel.)

Shane Abraham displayed recent images of galaxies (Centarus A!) and nebula taken with a 9.25 Edge HD, using stacking with the AsiAir. He invited other club members to join him at the North Shore monastery he images from.

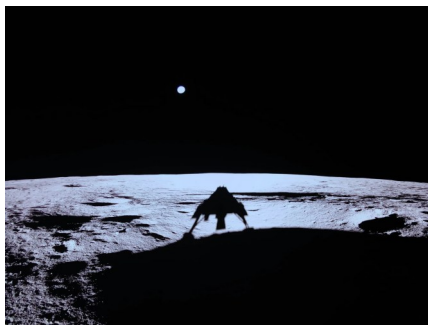
Treasurer Peter shared photos from his Celestron Origin smart telescope, with 4 hours of exposure on the Witch's Head Nebula, and some of M46, 3hrs 20min on nebula NGC1931 in Auriga and some of the Flaming Star Nebula (IC 405). He discussed the process of stellar deconvolution with reference to Eta Carina's variable magnitude over time. No rockets were harmed at this month's meeting.

At large board member Steven Chun showed some mono narrowband images of Alnitak and the Flame and Horsehead nebulae colored later according to the Hubble palette.

VP Bill related tales of woe, Schmidt-Cassegrain restoration, and the vicissitudes of "Cloudy Nights Experts". Advice on cleaning corrector plates sought. And, Bill can 3-D print Vixen dovetail mounts, if anyone has need of one.

Adjourned at 8:56pm, there were 13 person attending, and 4 zoom logins.

Faithfully submitted,  
James Andy Stroble, Secretary.  
Honolulu, Hawaii



Blue Ghost Lands on Moon

The shadow of Firefly Aerospace's Blue Ghost lunar lander can be seen in this photo from the Moon, taken after landing on March 2, 2025.

Image credit: Firefly Aerospace

Hawaiian Astronomical Society

Event Calendar

| April 2025   |        |  |                                 |                  |   |  |
|--|--------|--|---------------------------------|------------------|---|--|
| Sunday   | Monday | Tuesday  | Wednesday                       | Thursday         | Friday  | Saturday   |
| 30<br><br>BoD Meeting<br>Zoom 3:30PM   | 31     | 1<br><br>General Meeting<br>Bishop Museum<br>Hybrid 7:30PM | 2                               | 3                | 4<br><br>1st qtr 4:14PM<br>Aiea HS Star Party<br>7:00PM-9:00PM | 5<br><br>Onizuka Day<br>UH West 8A-3P<br><br>Public Party<br>Kahala/Geiger<br>Sunset 6:47PM                  |
| 6  | 7      | 8  | 9                               | 10               | 11  | 12<br><br>Full Moon 2:22PM |
| 13   | 14     | 15 Tax Day (Taxes Due)                                     | 16                              | 17 Holy Thursday | 18 Good Friday<br><br>Star Tonight<br>Bishop Museum<br>6:30PM   | 19<br><br>Public Party<br>Dillingham Airfield<br>Gate Closes 7P  |
| 20 Easter<br><br>3rd qtr 3:35PM | 21     | 22 Earth Day   | 23 Administrative Professionals | 24               | 25 Arbor Day  | 26<br><br>Club Party<br>Dillingham Airfield<br>Gate Closes 7P  |
| 27<br><br>New Moon 9:31AM       | 28     | 29   | 30                              | Notes:           |   |  |

<<Upcoming Star Parties>>

Public Party Geiger/Kahala April 5 — 6:38 PM

Public Party-Dillingham April 19 — 6:30 PM

Club Party Dillingham April 26 —6:30 PM

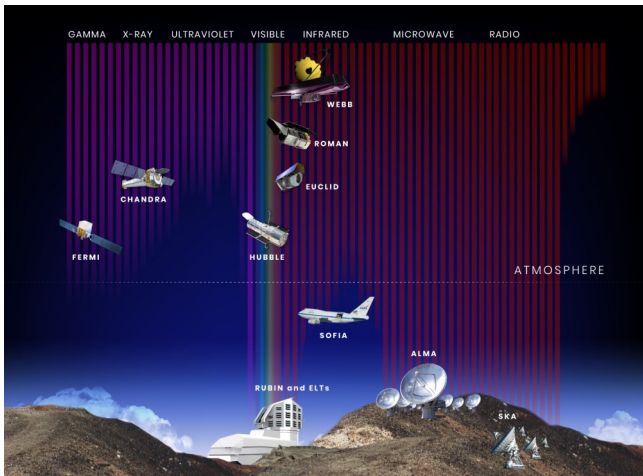
Upcoming School Star Parties

| Date     | Time        | Location         |
|----------|-------------|------------------|
| 4/4/2025 | 7:00P-9:00P | Aiea High School |
|          |             |                  |



## 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

## 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.

(Continued on page 10)

The Lyrids are a medium strength shower that usually produces good rates for three nights centered on the maximum. These meteors also usually lack persistent trains but can produce fireballs. These meteors are best seen from the northern hemisphere where the radiant is high in the sky at dawn. Activity from this shower can be seen from the southern hemisphere, but at a lower rate. Maximum is predicted to occur near 13UT on April 22nd (3am Hawaii Standard Time, Tuesday morning). The waning crescent moon (40% full) will slightly interfere with viewing these meteors in 2025. Credit: AMS.

I check the AMS fireball reporting website occasionally to see what I’ve been missing. The March score so far: Maui 2, Hawaii 1, Oahu 1, Kauai 0. The Oahu fireball on March 3rd must have been an amazing sight at magnitude -17 and a duration of 3.5 seconds. However, I recommend that the experience level, in this case a 1 out of 5, be taken into account as magnitude estimates can be subjective. A “1” is a beginning observer. The AMS fireball report is easy to fill out – Please report every fireball that you observe!

[https://fireball.amsmeteors.org/members/imo/report\\_intro](https://fireball.amsmeteors.org/members/imo/report_intro)

Fireball Reports

United States

HI



Feb 24, 2025 - Mar 27, 2025 ▾

All types ▾

All Event



Reports found: 5 between Feb 24, 2025 and Mar 27, 2025 in HI - United States (US)

| ID                | UT Date & Time      | Local Date & Time    | Country  | City         | State | Dur.  | Magn. | D. Sound | C. Sound | Frag. | Observer  | Exp. Level |
|-------------------|---------------------|----------------------|--|--------------|-------|-------|-------|----------|----------|-------|-----------|------------|
| 🔗 Event 1766-2025 |                     |                      |  |              |       |       |       |          |          |       |           |            |
| 1766a             | 2025-03-24 07:10 UT | 2025-03-23 21:10 HST | US    | Lahaina      | HI    | ≈1.5s | -10   | -        | -        |       | JeffS     | 3          |
| 🔗 Event 1700-2025 |                     |                      |  |              |       |       |       |          |          |       |           |            |
| 1700a             | 2025-03-21 07:45 UT | 2025-03-20 21:45 HST | US    | Makawao      | HI    | ≈3.5s | -17   | -        | -        | -     | JacobC    | 3          |
| 🔗 Event 1315-2025 |                     |                      |  |              |       |       |       |          |          |       |           |            |
| 1315a             | 2025-03-03 11:45 UT | 2025-03-03 01:45 HST | US    | East Kapolei | HI    | ≈3.5s | -17   | -        | -        | -     | AlbertW   | 1          |
| 🔗 Event 1314-2025 |                     |                      |  |              |       |       |       |          |          |       |           |            |
| 1314a             | 2025-03-03 07:25 UT | 2025-03-02 21:25 HST | US    | Pāhoa        | HI    | ≈3.5s | -4    | -        | -        | -     | VirginiaW | 1          |
| 🔗 Event 1157-2025 |                     |                      |  |              |       |       |       |          |          |       |           |            |
| 1157a             | 2025-02-24 15:25 UT | 2025-02-24 05:25 HST | US  | Kaneohe Base | HI    | ≈1.5s | -9    | -        | -        | -     | HollyC    | 1          |

Phases of the Moon (courtesy timeanddate.com )

| First Quarter |  | Full Moon |  | Last Quarter |  | New Moon |  |
|---------------|--|-----------|--|--------------|--|----------|--|
| April 4       |  | April 12  |  | April 20     |  | April 27 |  |

| Shower              | Activity      | Maximum |        | Radiant |      | V <sub>∞</sub> | r   | ZHR |
|---------------------|---------------|---------|--------|---------|------|----------------|-----|-----|
|                     |               | Date    | λ☉     | α       | δ    | km/s           |     |     |
| Lyrids (006 LYR)    | Apr 14–Apr 30 | Apr 22  | 32.32° | 271°    | +34° | 49             | 2.1 | 18  |
| π-Puppids (137 PPU) | Apr 15–Apr 28 | Apr 23  | 33.5°  | 110°    | -45° | 18             | 2.0 | Var |

The Lyrids peak just one day before the π -Puppids. It would be neat to observe a meteor from each shower on the same night! Tom Giguere, 808-782-1408, Thomas.giguere1@gmail.com.

# Cash Flow - 2/10/2025 to 3/9/2025

|  |                   |
|--|-------------------|
| <b>Beginning Balance</b>                       | <b>\$8,680.20</b> |
| <b>Money into selected accounts comes from</b> |                   |
| Donation                                       | \$165.00          |
| Membership - Electronic                        | \$440.00          |
| Membership - Family                            | \$22.00           |
| Membership - Paper                             | \$128.00          |
| Membership - Paper - Student                   | \$16.00           |
| Subscription - Astronomy                       | \$68.00           |
| <b>Total Money In</b>                          | <b>\$839.00</b>   |
| <b>Money out of selected accounts goes to</b>  |                   |
|  |                   |
| <b>Total Money Out</b>                         | <b>\$0.00</b>     |
| Difference                                     | <b>\$839.00</b>   |
| <b>Ending Balance</b>                          | <b>\$9519.20</b>  |

Here are the financials up through March 9.

Thanks to everyone who donated, paid, or renewed.

The March Dillingham Public Star Party had mediocre conditions (lots of clouds), but relatively steady seeing. Translated, that means when the clouds opened over a section of sky, stars E and F of the Trapizium were easy, and Jupiter looked marvelous.

Covid wastewater nation-wide figures have spiked, then dropped some, and are currently running at medium levels. Oahu figures show spikes on the Waianae coast, with lower levels elsewhere on Oahu. My wife and I got a Covid booster shot the day before this writing. Enjoy the sky.



Hubble Sees a Spiral and a Star

This NASA/ESA Hubble Space Telescope Picture of the Week features a sparkling spiral galaxy paired with a prominent star, both in the constellation Virgo. While the galaxy and the star appear to be close to one another, even overlapping, they're actually a great distance apart.

Image credit: ESA/Hubble & NASA, S. J. Smartt, C. Kilpatrick



# Message From Your Vice President


## March 2025

by Bill Barr

At our April 1st meeting we have a guest speaker Tom Calder, via Zoom.

Variable Stars and Amateur Astronomers (they go good together). Tom Calder"Variable Stars and Amateur Astronomers (they go good together). Tom Calderwood will speak remotely about stars with changing light output, how they are studied, and how amateurs can participate. Tom is a retired software engineer based in Bend, Oregon. He has a degree in mathematics from MIT and has worked on parallel processing computers, communication networks, video games, and data processing software for the Chandra X-ray Observatory. Tom leads the photoelectric photometry observing group of the American Association of Variable Star Observers (AAVSO).

### Club Equipment Sales

| Donated and Member Equipment for sale. First come first serve. Negotiations okay!   |  |                                       |
|---|--|---------------------------------------|
| Item  | Info   | Donation/Cost                         |
| First come first serve on all items.<br>Let me know what you would like to sell <b>OR BUY!</b><br>Holding period is one month   | Contact Bill<br>(Dustythepath at gmail.com)  | Suggested:                            |
| Celestron Eyepiece Collimator<br>In original box w /instructions.   | Good condition   | \$20                                  |
| Nanuk 910 Case, brand new   | New \$60+  | \$30                                  |
| ZWO EAF bracket for Celestron SCT   | NEW  | \$30                                  |
| Baader Coma Corrector #2458400 for fast Newtonians  | \$217 new  | \$50                                  |
| Laser Collimator  | Good condition   | \$30                                  |
| Celestron Nexstar 4<br>Minimal accessories/Planetary Imaging camera<br>Cleaning and testing in progress   | A good planetary/moon setup  | \$100                                 |
| <b>Meade LX200R (ACF) 8"</b><br>In good working condition. ACF= Advanced Coma Free Optics<br>Alt-Az fork mounted with 2" diagonal and accessories.<br>Contact Steven C. for more details. |  | \$500<br>Member Sale                  |
| <b>Meade ETX-125</b><br>127mm (5") f/15 telescopes optics with Ultra-High Transmission Coatings,<br>Electronic focuser, flip mirror, 8mm-24mm Zoom Eyepiece                               | OTA<br>In good condition.<br><b>De-forked</b><br><b>No mount</b>                   | \$100                                 |
| <b>Meade 2120 10" SCT Flower Pot</b>  | <b>Restoration attempt failed</b>  | Tube, primary and secondary available |
| Celestron Nexstar Hand Controller   |  | \$10                                  |
| Meade #497 Autostar Computer Controller new in box  |  | \$20                                  |
| Meade 26mm Plossl Eyepiece  |  | \$15                                  |
| Meade 6.7mm UWA Eyepiece  |  | \$15                                  |
| Meade 1.25" Erect Image Prism   |  | \$40                                  |
| Celestron C8 with .8x reducer in good condition<br><b>No mount or eyepieces</b><br><b>Pending collimation</b>   | OTA<br>In good condition.<br><b>De-forked</b>                                      | \$150                                 |

- **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](#).



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

(Continued on page 11)

*(Continued from page 10) NASA's Night Sky Notes*

- **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.

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*(Continued from page 1) Editor Notes*

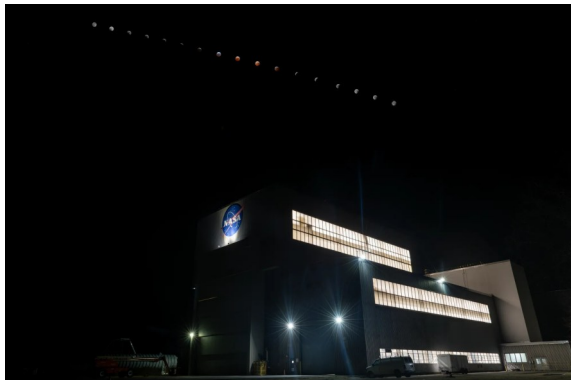
Girl Scouts requests that will be coming in. Your involvement will help with bringing in club membership and promoting the club.

At the time of this editor note, there are several events in April. On Friday, 4/4/2025, from 7:00 PM - 9:00 PM we have "Aiea Star Party" at Aiea High School (Backup date Friday, 4/25/2025). Next day, 4/5/2025, is Onizuka Day of Exploration at UH West Oahu from 8:00 AM to 3:00 PM. It will be followed by a public star party at Geiger Park and Kahala Park at sunset.

On Friday, 4/18/2025, Bishop Museum will have a monthly "Star Tonight" at 7:00 PM. Attendees will be out around 8:00 PM to view night sky objects with HAS telescopes. Next day, Saturday, 4/19/2025, we will have a public star party at Dillingham Airfield. Gate will now close at 7:00 PM. Let's hope for clear nights.

From what was reported on Discord, the in-town public star party on Saturday, 3/8/2025, was not good. We had too many clouds. The public star party at Dillingham Airfield on Saturday 3/22/2025, started out pretty cloudy at the time the gate closed. However, clouds parted around 7 PM. The audience was very engaged! We had about 8-9 guests and 5 club members. So, it was not too bad for this public star party. We left around 9:30 PM.

Many members now use Electronically Assisted Astronomy (EAA) devices. So, if you are observing and able to capture any night sky object even with a camera or a smartphone. You can share it in AstroNews by emailing it to me at [astronews@hawastsoc.org](mailto:astronews@hawastsoc.org) with some detail. I will post it.



Blood Moon Lunar Eclipse

The phases of the lunar eclipse are visible in this time-lapse image of the Moon above the Space Environments Complex at NASA's Glenn Research Center at NASA's Neil Armstrong Test Facility in Sandusky, OH on March 14, 2025.

Image credit: NASA/Sara Lowthian-Hanna

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#### NASA's SpaceX Crew-10 Launch

A SpaceX Falcon 9 rocket carrying the company's Dragon spacecraft is launched on NASA's SpaceX Crew-10 mission to the International Space Station, Friday, March 14, 2025, from NASA's Kennedy Space Center in Florida. NASA's SpaceX Crew-10 mission is the tenth crew rotation mission of the SpaceX Dragon spacecraft and Falcon 9 rocket to the International Space Station as part of the agency's Commercial Crew Program launched at 7:03 p.m. EDT from Launch Complex 39A at the NASA's Kennedy Space Center to begin a six month mission aboard the orbital outpost.

Image Credit: NASA/Aubrey Gemignani