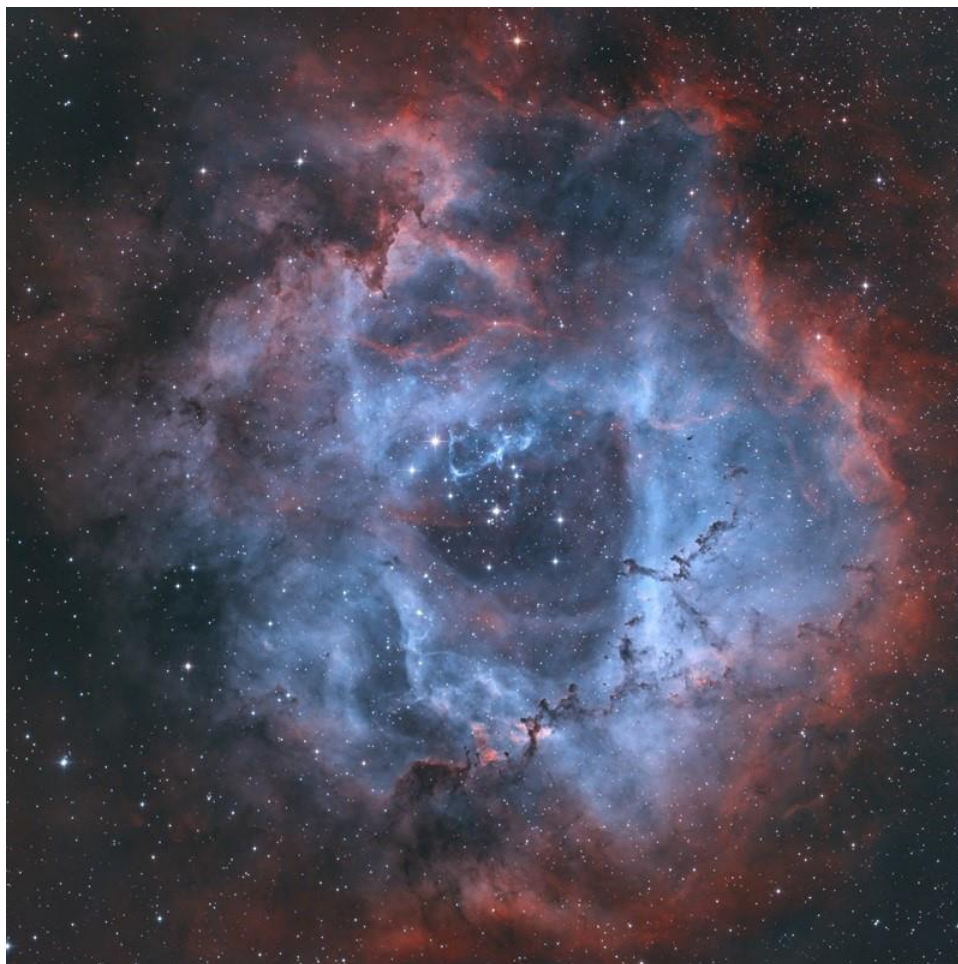


## *Roses are Red (and Blue)*



***The Rosette Nebula in Monoceros (NGC 2237-9/44/46) is one of the most popular targets on the sky, but the imagers of this shot have achieved a dramatic red/blue color palette with SHO filters.***

***The image is a four-panel mosaic representing 110 hours of exposure with a 14-inch scope.***

**Photo Courtesy: Walt Lickteig and Steve Timmons, taken near Fort Davis, Texas**

### **Inside this Issue...**

- 2 – Local Events and information
- 3 – News around the Globe
- 4 – Calendar
- 6 – EAS Business

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The EAS newsletter, Observer, is published monthly. Anyone wishing to contribute articles or photos may mail them to the club's PO Box: EAS, PO Box 3474, Evansville, IN 47733, or e-mail them to the editor at:

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

The **Evansville Astronomical Society (EAS)** is a non-profit organization fully incorporated in the state of Indiana. It has, as its primary goal, the advancement of amateur astronomy. Founded in 1952, the society seeks to:

- 1... maintain adequate facilities for its members and the public in order to extensively study the skies and
- 2... promote an educational program for those who wish to learn more about the science of Astronomy.

Meetings are held the third Friday of each month, except June, when the annual EAS picnic is held. The society also sponsors monthly Open House events during the warmer seasons that afford the public an opportunity to tour the observatory.

### EAS 2022 Officers and Contacts

President – Tony Bryan  
812.827.3234

[evansvilleastro@gmail.com](mailto:evansvilleastro@gmail.com)

Vice President – Scott Conner

Secretary – Dave Kube  
740.223.6854

Treasurer – Mitch Luman

Counselors  
Mitch Luman (2020)  
Michael Borman (2021)  
Ken Harris (2022)

Webmaster – Michael Borman

Program Director  
Chuck Allen

Newsletter editor – Dave Kube  
[dasiceman@yahoo.com](mailto:dasiceman@yahoo.com)

For more information about the EAS or directions to the Observatory, please visit the club's web page:

[www.evansvilleastro.org](http://www.evansvilleastro.org)



## Local Events and Information

### EAS Update

Please Note: We have a Regular Meeting scheduled for 7:30pm CDT on Friday, October 21<sup>st</sup>, 2022. This meeting is scheduled to be at the EAS Observatory in Lynnville. Please see our Facebook Group and Webpages for Updates. There will be no zoom event to join remotely.

### EAS Update

Please Note: We have a Fall Cleanup scheduled for Saturday October 22<sup>nd</sup>, 2022 beginning at 10:00am. This event is scheduled to be at the EAS Observatory in Lynnville. Please see our Facebook Group and Webpages for Updates.

### EAS Update

Please Note: We have a PSW scheduled for 7:30pm on Saturday October 22<sup>nd</sup>, 2022. This event is scheduled to be at the EAS Observatory in Lynnville. Please see our Facebook Group and Webpages for Updates.

### EAS Update

Please Note: We have a Regular Meeting scheduled for 7:30pm on Friday, November 18<sup>th</sup>, 2022. This meeting is scheduled to be at the EAS Observatory in Lynnville. Please see our Facebook Group and Webpages for Updates.

### EAS Update

Please Note: We have a Regular Meeting scheduled for 7:30pm on Friday, December 16<sup>th</sup>, 2022. This meeting is scheduled to be at the Evansville Museum. Please see our Facebook Group and Webpages for Updates.

### EAS Update:

Please visit our website <http://www.evansvilleastro.org> and our Facebook Group page to keep yourself up to date for any changes.

### Telescopes and accessories for sale...

Orion AstroView120ST, Equatorial Refracting Telescope and accessories. 120mm (4.7") aperture and 600mm focal length, includes sturdy adjustable-height tripod, equatorial mount, finder scope and an internal polar alignment scope. Includes two Plossl 1.25" eyepieces (25mm and 10mm), 6x30 finder scope, star diagonal. \$600.

Contact: Karen Caruso 812-629-8089 (cell)

### Telescopes and accessories for sale...

As mentioned in last month's issue, Mike Borman still has some excellent telescope equipment and imaging accessories for sale. Some of the gear has already been sold. If interested, go to Mike's web page. Here is the link: <http://www.mrborman.org/forsale.htm>

## ***Are we alone? The Search for Intelligent Life in the Universe.***



*With roughly 100 billion galaxies hosting countless stars each, the universe seems like it should be teeming with life. But is it?*

*Our understanding of the cosmos is far from complete. But perhaps life can also thrive elsewhere beyond Earth.*

*Photo Courtesy: NASA*

## **Are we alone?**

This question has plagued humankind since time immemorial. And yet, we still don't have a conclusive answer. Despite our incredible technological advancements, we have never received a credible radio signal from, or even the teeniest trace of, extraterrestrial life beyond Earth.

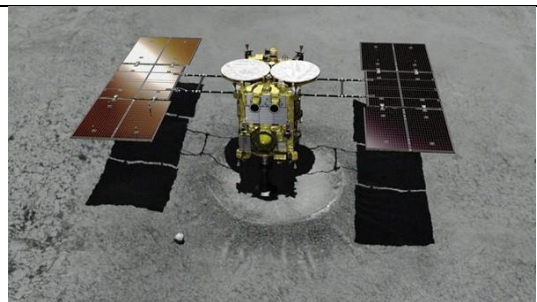
The current hunt for alien life includes: the Search for Extraterrestrial Intelligence (SETI) Institute, which has scoured the skies for radio signals from intelligent beings since its founding in 1984; the Kepler space telescope, which observed more than 500,000 stars during its mission, confirming more than 2,500 exoplanets; and more recently, the James Webb Space Telescope (JWST), which just took its first direct image of an exoplanet.

Perhaps the most tantalizing potential signal from an extraterrestrial civilization is the famous Wow! Signal. This very brief, but very intense, radio signal was detected by Ohio State University's Big Ear Radio Telescope Aug. 15, 1977, and it lasted for 1 minute and 12 seconds.

Most now agree the Wow! Signal is unlikely to be from aliens. But in a recent May 2022 study published in the International Journal of Astrobiology, researchers identified a possible source of the Wow! Signal: a Sun-like star a bit more than 1,800 light years from Earth.

Still, the question remains: Are we alone?

## ***Asteroid Ryugu is made of Rubble from the Outer Solar System.***



Particles plucked from Ryugu and returned to Earth reveal the near-Earth asteroid originated beyond Jupiter, helping shed light on the evolution of the asteroid belt.

The Japanese spacecraft Hayabusa2 is hard at work dislodging and then collecting samples from asteroid Ryugu in this artist's concept.

*Photo Courtesy: JAXA*

Early in the morning on Dec. 6, 2020, JAXA's Hayabusa2's sample-return capsule streaked through the sky over Woomera, Australia. The heat-shielded capsule, packed with material blasted from the surface of asteroid Ryugu in 2018, descended toward the desert sand. After tracking the precious cargo to its landing site, scientists successfully recovered the most pristine samples ever obtained of a carbon-rich asteroid.

Scientists have begun analyzing the samples. In one recent study published Aug. 15 in Nature Astronomy, researchers discovered the first evidence that Ryugu formed from material that originated in the outer solar system. The results also support the idea that the asteroid belt (located between Mars and Jupiter) may have been populated by planetesimals from two distinct sources when the solar system was still in its infancy.

## November 2022

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18 Reg.Mtg. 7:30pm	19
20	21	22	23	24	25	26
27	28	29	30			

Generated by [FreeHTMLCalendar.com](http://FreeHTMLCalendar.com) Copyright © 2011 John Dalbey.

### Up and Coming Events 2022

Please Note we have a Reg. Mtg scheduled for 7:30pm on Friday October 21<sup>st</sup>, 2022. - **No Zoom**

Please Note we have a Fall Cleanup Scheduled for 10:00am on Saturday October 22<sup>nd</sup>, 2022.

Please Note we have a PSW scheduled for 7:30pm on Saturday October 22<sup>nd</sup>, 2022.

Please Note we have a Regular Meeting scheduled for 7:30pm on Friday November 18<sup>th</sup>, 2022.

Please Note we have a Reg. Mtg. scheduled for 7:30pm on Friday December 16<sup>th</sup>, 2022 @ Museum

Please visit our Web Page <http://www.evansvilleastro.org> or our Facebook Group Page for updates  
Events may be cancelled due to Covid at time of event

### Moon Phases

New Moon	First Quarter	Full Moon	Third Quarter
November 23 <sup>rd</sup> , 2022	November 30 <sup>th</sup> , 2022	November 8 <sup>th</sup> , 2022	November 16 <sup>th</sup> , 2022
<a href="http://www.timeanddate.com">Moon Phases courtesy of Time and Date.com</a>			

# Star Party

You are invited to nighttime viewing of the night sky through telescopes.

Where: Everything takes place at the EAS Observatory up the hill on the east side of the park.

Cost: It's free to all, but the EAS is a 501(c)(3) nonprofit and donations are appreciated.

Begins at 7:30 PM Saturday October 22<sup>nd</sup>, 2022.

Recommended for ages 6 and up, but everyone is welcome.



### ***EAS Meeting for September – 2022***

Our August meeting at the EAS Observatory was officially called to order @ 8:50pm by president Tony Bryan. Officers in attendance were Tony Bryan, Dave Kube and Scott Conner. There were 14 members present with 9 attending via Zoom. There were no visitors present.

Prior to the meeting we had a presentation via zoom by our guest speaker Geoff Chester. Geoff is the Public Affairs Office for the U.S. Naval Observatory, a position he has held for over 25 years. For 19 years prior to joining the Observatory staff he held a variety of positions at the Smithsonian Institution's Albert Einstein Planetarium, located in the National Air & Space Museum.

Reading of minutes from our August meeting was motioned and voted to accept as printed in the September 2022 EAS Observer Newsletter.

#### **UPCOMING EAS EVENTS**

Vice President Scott Conner announced our upcoming events.

<b>Public Star Watch</b>	<b>Saturday, Sept 24</b>	<b>7:30 PM @ Observatory</b>
<b>Regular Meeting</b>	<b>Friday, Oct 21</b>	<b>7:30 PM @ Observatory</b>
<b>International Observe Moon</b>	<b>Saturday, Oct 1</b>	<b>7:30 – 9:30 @ Burdette Park</b>
<b>Fall Cleanup</b>	<b>Saturday, Oct 22???</b>	<b>10:00 AM @ Observatory</b>
<b>Public Star Watch</b>	<b>Saturday, Oct 22</b>	<b>7:30 PM @ Observatory</b>
<b>Regular Meeting</b>	<b>Friday, Nov 18</b>	<b>7:30 PM @ Observatory</b>
<b>Regular Meeting/Quiz Night</b>	<b>Friday, Dec 16</b>	<b>7:30 PM @ Museum</b>

#### **TREASURER'S REPORT**

Tony Bryan read Mitch Lumans Treasurer report. There are two new links on our webpage. One is for donations and one for paying dues. All finances are in order and a reminder to pay dues if have not already done so.

#### **SPECIAL PROJECTS**

The bathroom remodel project is moving along slowly. Door has been installed.

A camera security system is installed.

Planning is underway to reconfigure the payload on mount in the observatory deck.

Cleaning and sanitizing of equipment stored in the observatory is underway.

LED Light Replacement is well underway – Only one fixture remains. The fixture is dead and has to be replaced.

LED Lights are donated from Dave Kube.

#### **OLD BUSINESS**

**Stars on the Beach** – Evening observing took place at Patoka Lake on August 27<sup>th</sup>. This was our rain date. Three members of the EAS set up scopes for public viewing of the night sky. Present were Dave Kube, Scott Conner, and Tony Bryan. Dave brought his Celestron SCT. Scott brought his 18" Obsession. Tony brought the EAS's EV Scope. It was estimated that 100 people were present to look through the telescopes. All feedback for the public was positive. We received \$26.00 in donations that evening, which will be deposited to our General Fund.

**Group Tour at Observatory** – On Saturday September 10<sup>th</sup> Scott Conner hosted a kayaking group at our observatory. Dave Kube assisted. Tony was present working on the observatory building. We had five guests that evening. It was cloudy but the group did get to see the double star at Alberio. Donations were received in the amount of \$25 which will be deposited to our General Fund.

**Library Telescope Status** - Due to inventory shortages, the library scope awarded by the Astronomical League to the EAS for donation to the Chandler Library has yet to arrive. It is not anticipated to be delivered until the fourth quarter of this year.

**Adopt-a-Mirror** – During our last meeting it was announced that during the time our observatory was not being utilized, mice ran amuck and built nests in our 16" and 12" Meade Dobsonian telescopes. The primary mirror coating on the 16" is damaged and it requires recoating. The state of the 12" was believed at the time to be the same, but by some miracle, although disgusting filthy, was able to be cleaned. Several people present at our meeting last month donated a total of \$136 to help, and additional donations to fund this and other telescope maintenance are always welcome.

Spectrum Coatings has been chosen to recoat the 16". This decision was based on cost, and recommendation from Scott Conner. Enhanced Aluminum (EAL) coating will cost \$310 (includes center mark). The secondary, if needed, will cost either \$25 or \$50 to recoat; depending on the primary axis size (3.1" is price break point). Shipping cost will need to be added. Shipping and packing materials will be donated by Tony. We currently have sufficient funds in our Telescope Fund account to cover these expenses.

Motion was made to move forward with this expense and was carried to proceed.

### **NEW BUSINESS**

**Public Events** –The first PSW of the year is scheduled for September 24<sup>th</sup>. This event has been expanded to include daytime activities here at the observatory. This is done so we can serve more people, generate increased public awareness, and improve our standing with the park and City of Lynnville after being shuttered for two years. Daytime events will be conducted by Tony under the auspices of the NASA SSA program. There will be three multimedia shows, taking place rain or shine inside the observatory. The Evolution of Stars will be at 1 PM, 3 PM, and 5 PM. Fliers have been provided to the park staff and City of Lynnville.

**12" Meade Dobsonian Rebuild** – Cleaning of the 12" mirror was successful, thus we avoided more than \$200 of mirror recoating expense. Tony has rebuilt the telescope. The following was accomplished: Primary and secondary mirrors cleaned; mice-proof guards manufactured and added; OTA cleaned and repainted; finders cleaned and aligned; new 2" focuser installed; dobsonian base rebuilt; NGC Max system recently donated by Dr. Rhodes was added; all hardware and cables required to add NGC Max was designed, manufactured, and installed. Scope was collimated and tested.

The 2" X 2" Teflon pads for the base were donated by Dave. The 1/2" aluminum stock used for the ALT encoder mount was donated by Scott. All other aluminum stock, cable assembly, paint, screws and misc parts, machining, and labor was donated by Tony.

**Dates for Stars of the Beach for 2023** – Dates have been set, and accepted by Dana at Patoka, for next year's Stars on the Beach. Primary Date: New moon during July is Monday July, 17th. Saturday July 15th is selected as the primary date. The moon sets at 8:10 PM EDT on that date. Rain Date: New moon during or August is Wednesday August 16th. Saturday August 12th is selected as the rain date. The moon sets at 6:58 PM EDT on that date.

**International Observe the Moon Night** – October 1<sup>st</sup> is the International Observe the Moon Night. NASA SSA and EAS member Amanda Scurry is hosting an event to celebrate that on the Scout Loop at Burdette Park in Evansville. She has requested other Society and member support for that event. Scott and Tony have personally committed. Request a motion for EAS to support this event by additional member presence and adding it to our calendar, website, and Facebook?

**Public Events** –The second PSW of the year is scheduled for October 22<sup>nd</sup>. Request a volunteer to lead and at least one assistant to host the event.

**Fall Cleanup** – The fall cleanup will take place on October 22<sup>nd</sup>. This is the same day as the PSW. There are many things that take place to prepare the observatory for winter. Please help us out that day. Lunch will be provided.

**December Meeting Cost** - We have the museum reserved for our December meeting, which is our annual Astronomy Quiz Night. The rental for the Museum will be \$75. 1 guard, 3 hours @\$25/hour. If any member desires to sponsor us for that evening and cover a portion or all of the cost of rental, the Society will appreciate your generosity.

**Other New Business** - There was no other New Business presented

### **ANNOUNCEMENTS**

**Thanks to Members** – There are still many activities taking place here at the observatory outside of meetings and public events related to maintenance and cleaning, and operation of the society. Thanks go out to Dave Kube, Mike Borman, Mitch Luman, Scott Conner, Chuck Allen, Kevin Bonges, and any other member that I missed for their efforts to keep this organization going.

**Hoovey Lake** – Member Matt Merlo sent a message that on Saturday, Sept 24, Hovey Lake will be hosting a Night Paddle event that he will be providing the astronomy tour for. If any is interested I have attached the flyer for the event that I can email to you.

**Lost Item** – A Stetson nylon sun hat with a back flap was lost at the observatory. If you know it's whereabouts a reward is offered for getting it back to the owner.

**Next Monthly Meeting** - Our next regular meeting is scheduled for 7:30 PM on October 21<sup>st</sup> at the observatory.

**ADJOURN MEETING** Meeting was adjourned at 9:17pm

Respectfully Submitted – Dave Kube – Secretary