

Kepler Space Telescope Retires After Almost A Decade of Planet Hunting



Artist's concept of the Kepler Space Telescope, which led the search for exoplanets over the past decade.

NASA's legendary Kepler Space Telescope, which is responsible for the discovery of thousands of bizarre and intriguing exoplanets, has officially run out of fuel. With the telescope's retirement comes the end of the most prolific period of planetary discovery in the entire history of astronomy — at least so far.

Photo Courtesy of NASA/JPL-Caltech

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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

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 2018 Officers and Contacts

President – Tony Bryan
812.827.3234

evansvilleastro@gmail.com

Vice President – Scott Conner

Secretary – David M Kube
740.223.6854

Treasurer – Ted Ubelhor

Counselors
Ken Harris (2016)
Mitch Luman (2017)
Michael Borman (2018)

Webmaster – Michael Borman

Program Director
Tony Bryan

Newsletter editor – Dave Kube
dasiceman@yahoo.com

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

www.evansvilleastro.org



Local Events and Information

EAS Update:

Please Note we have a Regular Meeting scheduled at the Observatory on Friday, November, 16th, 2018 @ 7:30pm. Scott Conner will present "The Cliffs of Miranda."

EAS Update:

Please Note we have a Regular Meeting and our annual Christmas Astronomy Quiz to be held @ the **Museum** beginning @7:30pm on December 21st, 2018.

EAS Update:

Please Note the EAS schedule had not been set for the upcoming Calendar Year

EAS Update:

Please Note

EAS Update:

Please Note

FOR SALE:

Meade 8-inch Newtonian on heavy-duty LXD75 mount with AutoStar2 GoTo capability. Used very little. Asking \$850.

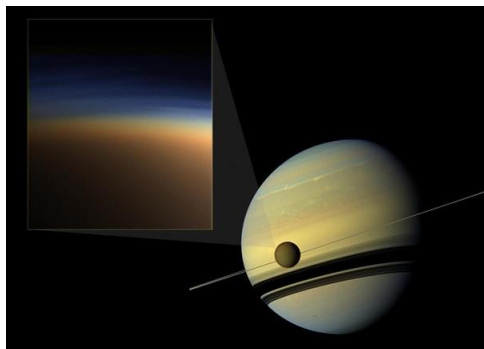
Cave Astrola 10-inch f/15 Cassegrain on heavy-duty mount. Converts to an f/4 Newtonian. 10-inch Mathis RA drive gear. Asking \$900.

Call Jim at 812-471-3017

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.mborman.org/forsale.htm>

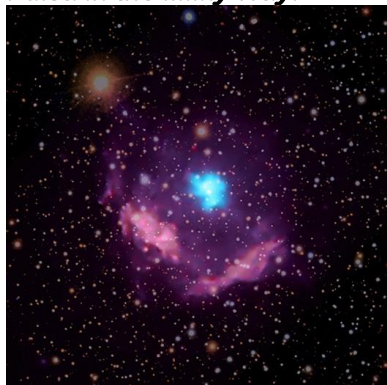
How did Titan get its Haze?



Titan, Saturn's largest moon, has a hazy atmosphere – seen here in the box on the left.

NASA Jet Propulsion Laboratory, Space Science Institute, Caltech

Astronomers Find the Youngest Known Pulsar in the Milky Way.



This composite image of Kes 75, the youngest known pulsar in the Milky Way, includes data from Chandra and the Sloan Digital Sky Survey.

NASA/CXC/NCSU/S. Reynolds; Optical: PanSTARRS

Four Giant Exoplanets Discovered Around a Single Young Star.



HD 80606b. After finding a hot Jupiter around a surprisingly young star, scientists have now found three other massive planets in the system.

NASA/JPL-CalTech

Titan, Saturn's largest moon, is enveloped in a thick, hazy atmosphere. One new research collaboration has identified a chemical mechanism that could help to explain how the moon's haze formed.

The team found a low-temperature chemical mechanism that could have sparked multi-ringed hydrocarbon molecules — molecules that later became the more complex chemicals in Titan's haze — to form.

These researchers identified this mechanism using vacuum ultraviolet light experiments combined with computer simulations and models to recreate and study the chemical reactions that create the atmospheric makeup of Titan.

Thanks to data from NASA's Chandra X-ray Observatory, a team of astronomers has successfully confirmed the Milky Way's youngest known pulsar. The mission has studied the supernova remnant for over 15 years and has collected invaluable information about its rapid expansion, physical properties, and surrounding environment. This new discovery could provide key information about the death of stars.

More than 2,000 of these pulsars have been detected since they were first discovered in 1967, but many aspects of them, like the stars they were born from and how they evolve, still remain a mystery.

But luckily, Chandra is helping shed light on their peculiar properties. A team of astronomers from North Carolina State University recently used Chandra data from 2000, 2006, 2009, and 2016 to study Kes 75, a pulsar just 19,000 light-years from Earth.

Researchers have discovered a strange, young toddler star with four massive planets in orbit around it. This is the first time that so many massive planets have been found in such a young stellar system.

The star at the center of this system, CI Tau, is only two million years old and surrounded by a protoplanetary disk made up of dust and ice. In this disk, the system's planets, asteroids, moons, and other objects form. Scientists already knew about this system because they'd found a hot Jupiter — a gas giant exoplanet that orbits close to their star — around CI Tau. It was the first hot Jupiter to be discovered around such a young star.

December 2018

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	19	20	21 Mtg @ Museum Pot Luck/ Quiz 7:30pm	22
23	24	25	26	27	28	29
30	31					

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Up and Coming Events 2017/2018

Regular Meeting – Friday, November 16th – Observatory @ 7:30 pm

Regular Meeting/ Astronomy Quiz – Friday, December 21st – Museum @ 7:30pm

End of Calendar Year 2018

Moon Phases

New Moon	First Quarter	Full Moon	Third Quarter
December 7 th , 2018	December 15 th , 2018	December 22 nd , 2018	December 29 th , 2018
Moon Phases courtesy of Time and Date.com			

EAS Meeting Minutes for October 19th, 2018

The meeting was called to order at 7:33 pm by Vice President Scott Conner as Tony Bryan was absent for the meeting. There were 14 members including 1 new member present. There were no visitors. The reading of the minutes was motioned to be accepted as published in the newsletter and seconded. The motion passed by a unanimous vote.

V. President Scott Conner announced the below list of up-coming events.

Regular Meeting	Friday, October 19	7:30pm @ Observatory
PSW #6 Halloween	Saturday, October 27	7:30 pm @ Observatory
PSW #7	Saturday, November 10	7:30 pm @ Observatory
Regular Meeting	Friday, November 16	7:30pm @ Observatory
Regular Meeting/Quiz	Friday, December 21	7:30pm @ Museum

TREASURER'S REPORT – Treasurer Ted Ubelhor reported that our funds are holding steady and we currently have 48 paid members.

SPECIAL PROJECTS – The remodel on the Men's Room is about 1/3 complete including Hot Water. Tony Bryan is working on the wheelbarrow handles for the 16" Dob and we are going to upgrade to a heavier tubing to carry the weight. Scott is designing a new top assembly to hold the secondary in a more stable manner. – Scott has cut the ring and needs to verify the fit before welding it.

OLD BUSINESS

Science Day and PSW – On Saturday October 13 the EAS assisted the Evansville Museum during their Science Day event. The night skies were cloudy, so the PSW did not take place. Reportedly we had 100 guest looking through the solar scopes the EAS had setup.

Fall Cleanup – We had our semi-annual cleanup and maintenance of the Observatory on Saturday, October 6. Turnout was low, but the food and fellowship was great!
Thanks to Scott, Ted , Anthony, Bob, Randy Montgomery, and Tony.

Wesselman Woods - We had a request from Wesselman woods for people with telescopes to help out with an event the evening of September 29th. We did not have anyone available to fulfill this request.

NEW BUSINESS

PSW #6 – - Our sixth PSW of 2018 will be on October 27th. This was originally planned to be a bigger than normal PSW, and have a Halloween theme. The Halloween theme was scaled back to come as you are or in costume, as long as you don't scare the kids. Bring some treats to hand out if you like. We have a scout group coming that night as well as the general public.

PSW #7 - Our seventh (and last) PSW of 2018 will be on November 10th. We need a lead and at least one other host for this event. Your assistance at our last PSW for 2018 will be greatly appreciated. Chuck Allen, Ken Harris and Dave Kube volunteered to host this event.

Girl Scout Group – Member Jayliegh Hadley has requested use of the observatory and a host for Monday evening in October or November (Date TBD). Possibly looking at November 19th. Ken Harris and Dave Kube have volunteered to host.

Girls Scouts at Museum – Date of November 16th, same night as the November meeting. If anyone is not going to attend the meeting and can help Mitch please contact Mitch.

EAS Website Up – Our website evansvilleastro.org is back up and the URL has remained the same (evansvilleastro.org). Thanks to Scott, Mike, Dave, and Ted for all they did to get us up and running again.

Dues – If you have not yet paid your membership dues, please either mail them to our P.O. Box or hand them to an officer. Thank you.

Elections – Dave Kube reminded us that coming in November we will be voting in our officers for the upcoming 2019 year.

The program for tonight is presented by Chuck Allen will present “How Far Did Coroebus Run?; Measuring Distance in the Universe.”

Meeting was adjourned at 7:51 pm

Minutes respectively submitted by
EAS Secretary, David Kube