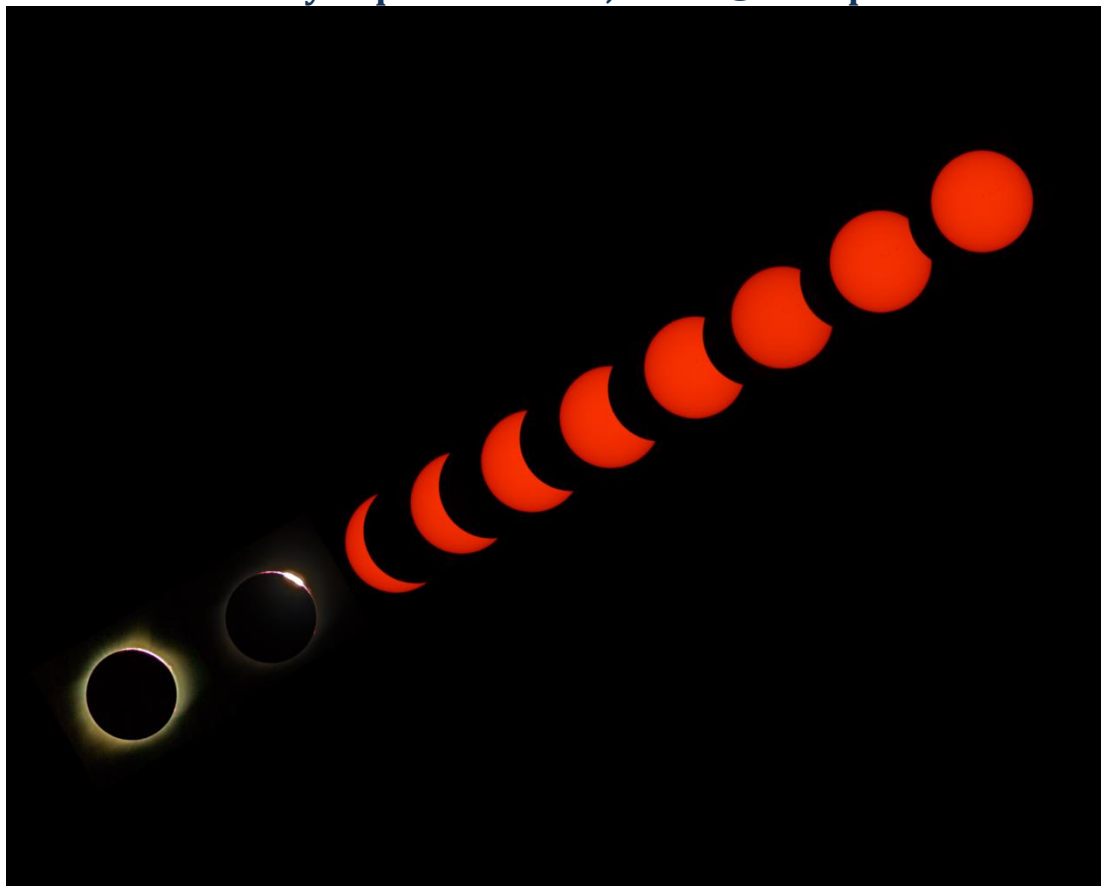


**September Meeting at the Observatory
Friday September 15th, 2017 @ 7:30pm**



Timeline Image of the August 21st, 2017 Solar Eclipse

Photo by Dave Kube taken in Russellville, KY

Inside this Issue....

- 2 – Local Events and information
- 3 – News around the Globe
- 4 – Calendar
- 5 – Eclipse Recap
- 8 – EAS Business – Minutes

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 2017 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
Michael Borman
Ken Harris
Mitch Luman

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 Schedule Update:

Please Note we have a Regular scheduled meeting on Friday, September 15th, 2017 @ 7:30 pm.

EAS Update:

Please Note that the Ferdinand Folk Festival is scheduled for Saturday, September 16th, 2017 beginning @ 10 am EDT in Ferdinand, Indiana. Contact myself, Dave Kube, as I will again lead this event. See Contact info to the left for Secretary and Newsletter Editor.

EAS Update:

Please Note we have a PSW scheduled on Saturday, September 23rd, 2017 @ 7:30 pm.

EAS Update:

Please Note we have Fall Cleanup scheduled for Saturday, October 7th, 2017 @ 10:00 am.

EAS Update:

Please Note we have a Regular scheduled meeting on Friday, October 20th, 2017 @ 7:30 pm.

EAS Update:

Please Note we have a PSW scheduled on Saturday, October 21st, 2017 @ 7:30 pm.

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>

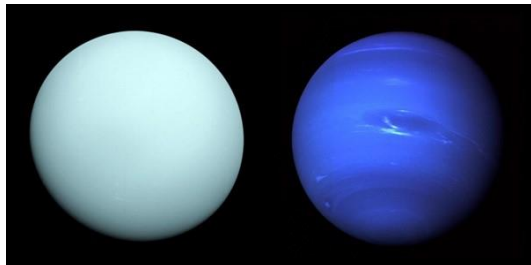
Astronomers Find Pristine Dark Asteroids in the Inner Belt.



The asteroid belt contains pieces of the early solar system. A new asteroid family recently identified is the oldest family yet in the main belt.

NASA/JPL-Caltech

Uranus and Neptune: Cloudy With a Chance of Diamonds.



Uranus and Neptune experience diamond rain deep within their atmospheres — and now scientists on Earth have watched this process occur in the lab.

NASA/JPL-Caltech (Left, Uranus); NASA (Right, Neptune)

Is This the First Solar Eclipse Picture?



The petroglyph shows a circle with loops around the edges, which may represent the Sun's corona during an eclipse.

Courtesy of University of Colorado

The asteroids that populate our solar system are some of the oldest relics of its formation. Studying these relics tells astronomers not only about the conditions in which they — and the planets — formed, but also about the dynamical history of the solar. Recently, a team of astronomers including researchers from the Southwest Research Institute (SwRI) identified some of the oldest, most pristine asteroids in the main belt, offering an even clearer picture of our nascent solar system.

The work, which was published online August 3 in *Science*, yielded two important results. First, astronomers spotted a relatively empty spot in the main asteroid belt. The low population in this area means asteroids found in it likely haven't undergone significant collisions or evolution, leaving them largely unchanged since their formation. Second, the team identified the oldest family of asteroids found yet, revealing samples of our early solar system for future study.

On Earth, we experience rain composed of liquid water. On Titan, it rains liquid methane. And on Uranus and Neptune, it rains solid diamonds. For the first time, researchers have now simulated and observed this process here on Earth, proving that this long-held assumption is likely correct, once and for all.

The experiment focused on inducing shock waves in a plastic material called polystyrene, which contains hydrogen and carbon — two elements found in abundance inside Uranus and Neptune. According to theory, methane (four hydrogen atoms and one carbon atom) inside the planets' atmospheres forms hydrocarbon chains that in turn form diamonds in response to the right temperature and pressure. This occurs more than 5,000 miles (8,000 kilometers) beneath the planets' surface. There, the diamonds precipitate out and sink deeper into the atmosphere, a "diamond rain."

There are so many photographs of eclipses, and while they're all amazing to see, this one might be the most special.

Emeritus J. McKim "Kim" Malville," professor of astrophysical and planetary sciences at the University of Colorado Boulder, said there may be a very old symbol of a total solar eclipse in New Mexico's Chaco Canyon.

The petroglyph, a picture carved into a rock known as Piedra del Sol in the canyon, shows a circle with looping lines coming off of it, similar to the sun's corona. The petroglyph was first discovered during a CU Boulder school trip and is believed to have been a representation of the July 11, 1097 total solar eclipse. If one looks at a drawing by a German astronomer of the 1860 total solar eclipse during high solar activity, rays and loops similar to those depicted in the Chaco petroglyph are visible.

October 2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7 Fall Cleanup 10am
8	9	10	11	12	13	14
15	16	17	18	19	20 Reg.Mtg 7:30pm	21 PSW 7:30pm
22	23	24	25	26	27	28
29	30	31				

Generated by FreeHTMLCalendar.com Copyright © 2011 John Dalbey.

Up and Coming Events 2017

Regular Meeting – Friday September 15th – Observatory @ 7:30 pm

Ferdinand Folk Festival – Saturday September 16th @ Ferdinand City Park 10 am EDT

PSW – Saturday September 23rd – Observatory @ 7:30 pm

Fall Cleanup – Saturday October 7th – Observatory @ 10:00 am

Regular Meeting – Friday October 20th – Observatory @ 7:30 pm

PSW – Saturday October 21st – Observatory @ 7:30 pm

Moon Phases

New Moon	First Quarter	Full Moon	Third Quarter
October 19 th , 2017	October 27 th , 2017	October 5 th , 2017	October 12 ^h , 2017
Moon Phases courtesy of Time and Date.com			

ECLIPSE RECAP – by Tony Bryan

To say that we have been busy lately would be an understatement. Leading up to the day of the Great American Eclipse, the members of the EAS gave presentations and offered views of the Sun through filtered telescopes at five public libraries, one state park, one elementary school, and gave several presentations to teachers and at businesses. Members also took part in no fewer than three radio interviews and numerous television interviews across the tristate area that reached potentially more than 150,000 people. Over the course of these events we directly interacted with literally thousands of people.

The EAS distributed almost 350 pairs of eclipse glasses to the public at no charge (in some cases donations were accepted), and I am pleased to say that to my knowledge there were no local media reports of eclipse related eye injuries. That can be attributed in part to our efforts in stressing eye safety at every opportunity. We received \$512.00 in honoraria and donations made in conjunction with solar eclipse presentations. At the moment I am unaware if we gained any memberships from activities associated with the eclipse, but it would not surprise me if in the near future we do.

Our members associated with the Evansville Museum hosted a weekend of eclipse activities and coordinated a bus tour to Hopkinsville, KY. Our members associated with USI had a special program for 700 area elementary and middle school students with lectures, safety briefings, and demonstrations. I realize that these things are not directly tied to the EAS, but nonetheless, the persons involved are ambassadors of the EAS while conducting astronomy related things, in my mind.

At the August monthly EAS meeting, just three days prior to the eclipse, special awards were presented to eight members who gave generously of their time in support of eclipse presentations, television and radio interviews, manning solar telescopes, and interacting with the public. Recipients of the award were: Dave Kube, Scott Conner, Ted Ubelhor, Don Schenk, Mike Borman, Bob Flater, Matt Merlow, Ken Harris, and Mitch Luman (not present to receive award).

During the eclipse, we had EAS members at no fewer than four locations where numerous people were gathered to watch the spectacular event. Three of the locations were in the path of totality; Hopkinsville, KY, Eddyville, IL, and Russellville, KY; and one at 99% obscuration, the University of Southern Indiana.

Many of you by now have visited our website and viewed the photos related to the eclipse submitted by our members and uploaded by webmaster, Mike Borman. If not, I encourage you to do so, and while you are at it visit our Facebook page as well. There you may find links to some of the television and radio interviews mentioned earlier.

ECLIPSE RECAP – Photos by Dave Kube except where noted. There are many more contributions from members presenting and demoing around the area. Thanks to all who contributed to these pre-eclipse events.



Mitch Luman Presenting @ Ohio Township Library in Newburgh



Bob Flatter Demoing @ Dubois Public Library in Dubois photo courtesy of Bob Flatter



Tony Bryan Presenting @ Dubois Public Library in Dubois photo courtesy Donna Bryan



Don Schenk Demoing @ Loogootee Library in Loogootee



Guests @ Loogootee Library in Loogootee



Tony Bryan and Dave Kube Demoing @ Loogootee Library in Loogootee



Guests @ Loogootee Library



Tony Bryan Presenting @ Alexandrian Public Library in Mount Vernon photo courtesy of Tony Bryan



Guests @ Beal Woods Photo Submitted by Tony Bryan



Guests @ Beal Woods Photo Submitted by Tony Bryan



Guests @ Dubois Public Library in Dubois Photo Submitted by Tony Bryan



Bob Flatter Demoing @ Dubois Public Library in Dubois Photo Submitted by Tony Bryan



Tony Presenting @ Beal Woods Photo Submitted by Tony Bryan



Guests @ Beal Woods Photo Submitted by Tony Bryan

EAS MEETING for August 18th, 2017

CALL TO ORDER - The meeting was called to order at 7:34 pm by President Tony Bryan.

READING OF MINUTES - The reading of the minutes was called to be accepted as published in the newsletter. The motion was seconded and carried unanimously. There were 14 members present.

UPCOMING EAS EVENTS – V. President Scott Conner announced the below list of up-coming events.

Total Solar Eclipse	Monday, August 21	Path of Totality
EAS Meeting	Friday, September 15	7:30 pm @ Observatory
Ferdinand Folkfest	Saturday, September 16	10:00AM @ Ferdinand EDT
PSW #5	Saturday, September 23	7:30 pm @ Observatory
Fall Cleanup	Saturday, October 7	10 am @ Observatory

VISITOR INTRODUCTION – We had 4 visitors.

TREASURER’S REPORT – Treasurer Ted Ubelhor reported that we now have 38 paid members and 13 still unpaid from last year. Ted reminded that we are still very early in the new year and expects to receive more paid dues in the near future.

SPECIAL PROJECTS

Astro-Tech AT8RC Installation – Scott Conner reported that pieces are cut and need to be welded.

Storage Room Remodel – No status change. The replacing of drywall and paint in the storage room and lounge is on hold until the water intrusion problem is corrected.

OLD BUSINESS

PSW #4 – On Saturday, August 12th we had our forth PSW of the year. We had a great crowd of at least 24. Tony presented the Solar Eclipse program. Scott, Ken, Bob, and Matt manned scopes and answered a lot of questions. We received \$71 dollars in donations.

Solar Eclipse Programs – We gave several Eclipse presentations in southwest Indiana over the last few weeks. Many of our members were involved, and that unselfish donation of time and talent contributed to the success of these events.

Oakland City IN library on Saturday August 5th

Attendance was 49, presentation by Tony, assistance by Don, Ken, and Bob

Beall Woods State Park on Saturday August 5th

Attendance was 59, presentation by Tony, assistance by Don, Ken, and Scott

Dubois Public Library on Saturday August 12th

Attendance was 45, presentation by Tony, assistance by Mitch and Bob

Ohio Township Library in Newburgh on Tuesday August 15th

Attendance was 31, presentation by Mitch, assistance by Dave, Don, and Tony

Alexandrian Public Library in Mount Vernon on Thursday August 17th

Attendance was 21, presentation by Tony, assistance by Don

WITZ Radio interview (half hour spot).

Live Interview with Tony

WEVV Channel 44 News interview w/ Dave Kube (10 Minute Spot)

Tape Delay Interview to Broadcast on 8-21-17.

NEW BUSINESS

Solar Eclipse Programs – We will be giving our last solar eclipse presentation on Saturday, August 19th at the German American Bank on HWY 50 in Loogootee for the Loogootee Public Library. The presentation begins at 12:30 PM EDT and solar scopes will be set up for view afterwards (weather permitting). A minimum of a \$50 honorarium is connected to that event and assistance setting up and manning scopes is requested.

Ferdinand Folkfest – The Ferdinand Folkfest takes place on Saturday, September 16th beginning at 10:00AM in Ferdinand. Dave Kube is coordinating the event. Dave reported that he was able to head up the event. CC and her husband Tom would assist him and Matt Merlo also volunteered to bring a solar scope.

PSW #5 – Our next Public Star Watch is scheduled for Saturday, September 23rd, at 7:30 pm at the observatory. Of course it will not be getting dark until much later. We need a lead and some assistance for this event. Request a show of hands of those you might help that evening.

Fall Cleanup – On Saturday, October 7th at 10 am we will be doing our semi-annual cleanup and maintenance of the Observatory. There is a lot that needs to get done and the more people that we have, the more items we can check off. Lunch will be provided. Please help.

Special Recognition Certificates and – Ted Ubelhor presented Tony Bryan with a special award from the Astronomical League for Special Presentations. Tony Bryan also presented special awards to eight members who gave generously of their Time in support of eclipse presentations, television and radio interviews, manning solar telescopes, and interacting with the public. Recipients of the award were: Dave Kube, Scott Conner, Ted Ubelhor, Don Schenk, Mike Borman, Bob Flater, Matt Merlow, Ken Harris, and Mitch Luman (not present to receive award).

ANNOUNCEMENTS

Okie-Tex Star Party – The 34th annual Okie-Tex Star Party that is being held September 16th through the 24th, 2017. The event is sponsored by the Oklahoma City Astronomy Club, and takes place at Camp Billie Joe, in Kenton, OK. Three EAS members are currently listed on the “who’s coming” page of the Okie-Tex Star Party website. There is an information sheet posted on our bulletin board in the hallway. Visit www.okie-tex.com if you want to learn more.

Illinois Dark Skies Star Party – September 21, 22 and 23, 2017 Jim Edgar Panther Creek State Fish & Wildlife Area www.sas-sky.org

Next Monthly Meeting – Our next regular meeting is scheduled for 7:30 PM on September 15th at the observatory in Lynnville. Ted and I will not be at that meeting because we will be attending Okie-Tex, but we are sure that Scott and Dave are capable of taking care of business.

The program for tonight is an informative video presentation titled “Great American Total Eclipse of 2017” by Fred Espenak (Mr. Eclipse).

ADJOURN MEETING – Meeting was adjourned at 7:59pm