

Observer

EVANSVILLE ASTRONOMICAL SOCIETY, INC.

October
2012

Photos from the Ferdinand Folk Festival ... Courtesy of David Kube



Dave Kube (above) and Ted Ubelhor (right) provided solar viewing for visitors.



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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: gneireiter@wowway.com

Local Events and Information

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 for 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 2012 Officers and Contacts

President - Scott Conner 812.604.7164
ssconner24@gmail.com

Vice President - Tony Bryan

Secretary - Charleen Kaelin 812.303.1711

Treasurer - Scott Bishop

Counselors - Michael Borman, Kent Brenton,
and Ed Erickson

Webmaster - Michael Borman

Program Director - open

Newsletter Editor - George Neireiter
812.629.7822 gneireiter@wowway.com

For more information about EAS or directions to the Observatory, visit the club's web page:
<http://www.evansvilleastro.org/>



Public Sky Watch on Sep. 8... We had a great turnout for the open house Saturday night. We had 36 people in attendance at the program. I did my slide show and then opened the floor for questions. After that Dave Kube and I went upstairs to the dome to show the following objects using the 14" Celestron SCT: M13 (a globular cluster in Hercules), M11 (the Wild Duck open cluster), M31 (the Andromeda galaxy), M27 (the Dumbbell planetary nebula) and Albireo (a double star). There were two member telescopes set up outside also. One was manned by Wayne Donohoo and the other was handled by Duane and Kim Davis. There was a lot of interest by the visitors, and they were quite happy with what they all got to see and do.

We do need to get someone up there to mow the grass as it was very tall. Part of the yard was mowed after we got there, but the back part and outside the fence was left. Also, we could use some more help at our open houses -- another telescope and one or two more members would have been nice. ... Ken Harris

Ferdinand Folk Festival on Sep. 15... David Kube and Ted Ubelhor managed the EAS booth at the Festival. The location that Dave picked was in between the main drag and the music stage. This gave a good view of the sun while still being in an area of visitor traffic. Dave and Ted greeted about 400 - 500 visitors throughout the day which kept them very busy. The weather was quite good until later in the afternoon when clouds started to roll in.

For future Festival events, Ted suggested that EAS get a banner that reads "free solar viewing" to help draw the crowd to the booth and the scopes for safely seeing the sun. Another banner with the Evansville Astronomical Society name is being considered as well. The banners would be approximately 2' x 10'.

Thank you Dave and Ted for representing EAS at this public outreach ! Also, thanks to Dave for capturing pictures of the festival activities.

Telescope and Mount for Sale... Joe Caruso has an 8" f5 Newtonian telescope for sale. It is fitted on a Meade LX75 computerized mount and works great. Joe said the scope is nearly new. If interested, please contact Joe at 812-629-0419.

September 20, 2012

A Major Change

As the year comes to a close we at the EAS are beginning a new chapter in our club. For the past 13 years, we have been fortunate to have a very energetic and engaging leader at the head of our club: Scott Conner. But, things are changing as Scott steps down to begin to pursue other parts of his life.

In the past 5 years, our club has lost several active members due to unforeseen circumstances. We have had a few of our newer members step up, but we really need more help to make this club stand out as an example of what amateur astronomy is all about. The last couple of PSW's have had good attendance, and I can see this becoming a regular thing as more and more people look for local things to do.

I am doing all I can right now as I am teaching 5 days a week and 2 nights a week, and trying to make all meetings and PSW's. That will change in two years when I plan to retire and can put more effort into our club. I also live over 1.5 hours away and am not able to coordinate with a lot of things happening at the club.

It would be nice to find a couple of more members who would be willing to learn how to run the programs and telescope upstairs. I cannot tell you how much I appreciate those of you who bring your scopes and help out when I am doing the PSW. Wayne, Ted, Dave, and others have been a saving grace at the observatory at several different times.

But, someone has to assume the reins of power for the upcoming year. I know that our current and very able VP (Tony Bryan) is not able to do so, as his work has him leaving the area many times a year. I know that I will not be able to for at least the next two years. So, if there is someone out there who is able to spend the time and make the effort, I think that he or she will find out the rewards that go along with the job are pretty nice. And, with the present help of the other officers and members, the job isn't near what it had been in the past.

I also urge our newer members to come and get involved. Our next cleanup and potluck day would be a great time to come and lend a hand and enjoy the friendship of the other members. There is a PSW that night, so plan to stay and learn the ropes of doing a PSW. It is fun, and just remember that the visitors usually know very little about your favorite subject, so be ready to share and answer all kinds of questions.

Sincerely,

Senior (30 years) Member Ken Harris

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Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
4	5	6 Last 	7	8	9	10
11	12	13 New 	14	15	16 Regular Mtg.	17
18	19	20 First 	21	22	23	24
25	26	27	28 Full 	29	30	

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October Events (reminder)....

Twin Lakes (23rd) Oct. 6 - 14
 Fall/ Winter Cleanup Oct. 13 1:30 pm with dinner and observing afterwards
 and PSW Oct. 13 6:45 pm Wahnsiedler Observatory
 Regular Meeting Oct. 19 (Friday) 7:30 pm Wahnsiedler Observatory
 (note: nominations for Officers at the October meeting)

November Events...

Regular Meeting Nov. 16 (Friday) 7:30 pm Wahnsiedler Observatory
 (note: Election of Officers for 2013)

Moon phase times (Evansville local time)

full	8:46 a	Nov 28	new	4:08 p	Nov 13
third quarter	6:36 p	Nov 6	first quarter	8:32 a	Nov 20

courtesy of [Time and Date](#)

Doing Science with a Spacecraft's Signal



By David Doody

Mariner 2 to Venus, the first interplanetary flight, was launched August 27 fifty years ago. This was a time when scientists were first learning that Venus might not harbor jungles under its thick atmosphere after all. A Russian scientist had discovered that atmosphere during the rare Venus transit of 1761, because of the effects of sunlight from behind.

Mariner 2 proved interplanetary flight was possible, and our ability to take close-up images of other planets would be richly rewarding in scientific return. But it also meant we could use the spacecraft itself as a "light" source, planting it behind an object of our choosing and making direct measurements.

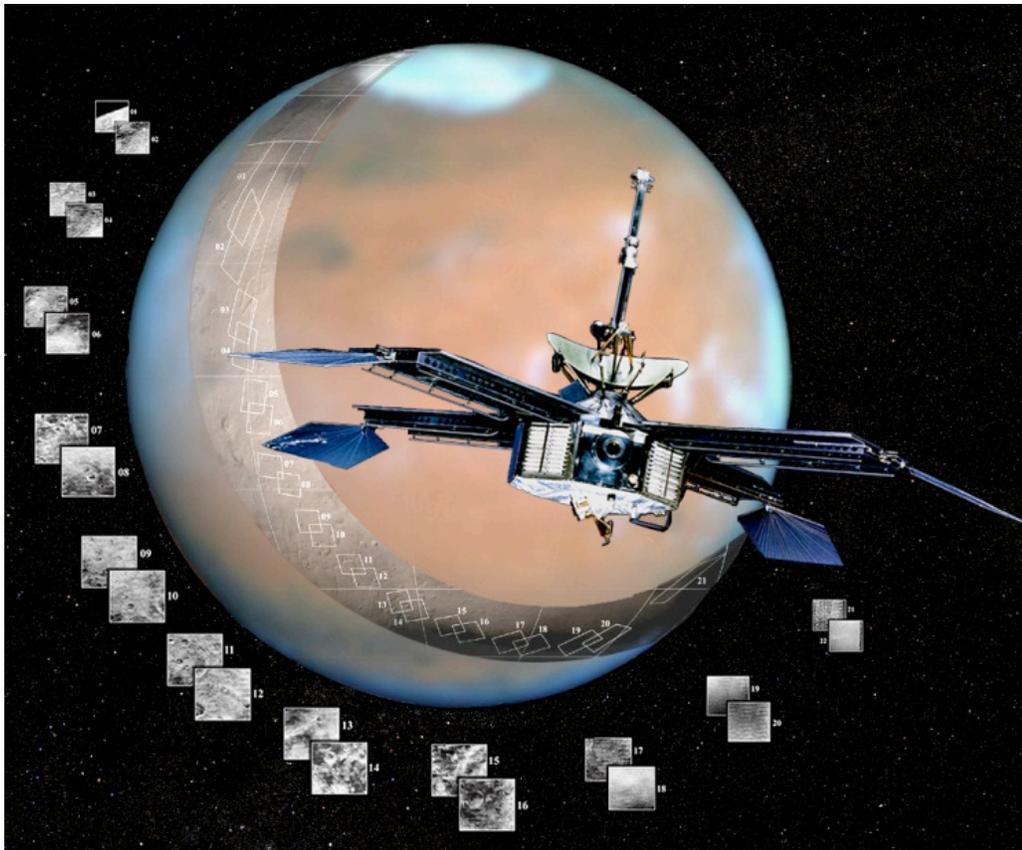
Mariner 4 did the first occultation experiment of this sort when it passed behind Mars as seen from Earth in July 1965. But, instead of visible light from the Sun, this occultation experiment used the spacecraft's approximately 2-GHz radio signal.

The Mariner 4 experiment revealed Mars' thin atmosphere. Since then, successful radio science occultation experiments have been conducted at every planet and many large moons. And another one is on schedule to investigate Pluto and its companion Charon, when the New Horizons spacecraft flies by in July 2015. Also, during that flyby, a different kind of radio science experiment will investigate the gravitational field.

The most recent radio science occultation experiment took place September 2, 2012, when the Cassini spacecraft carried its three transmitters behind Saturn. These three different frequencies are all kept precisely "in tune" with one another, based on a reference frequency sent from Earth. Compared to observations of the free space for calibration just before ingress to occultation, the experiment makes it possible to tease out a wide variety of components in Saturn's ionosphere and atmosphere.

Occultation experiments comprise only one of many categories of radio science experiments. Others include tests of General Relativity, studying the solar corona, mapping gravity fields, determining mass, and more. They all rely on NASA's Deep Space Network to capture the signals, which are then archived and studied.

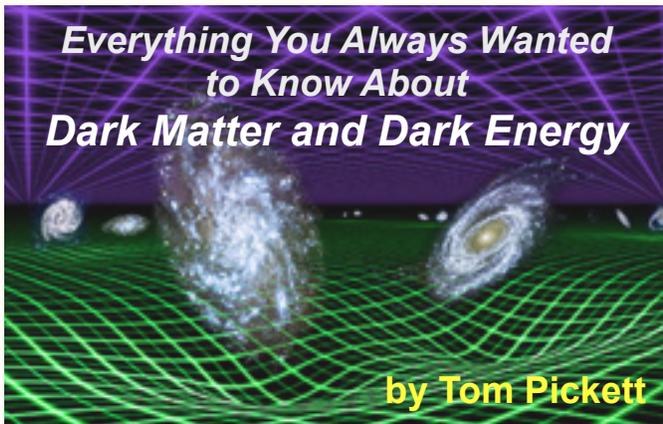
Find out more about spacecraft science experiments in "Basics of Space Flight," a website and book by this author, <http://www2.jpl.nasa.gov/basics>. Kids can learn all about NASA's Deep Space Network by playing the "Uplink-Downlink" game at <http://spaceplace.nasa.gov/dsn-game>.



In this poster art of Mariner 4, you can see the parabolic reflector atop the spacecraft bus. Like the reflector inside a flashlight, it sends a beam of electromagnetic energy in a particular direction. Credit: NASA/JPL/ Corby Waste.

Upcoming Programs...

*Everything You Always Wanted
to Know About
Dark Matter and Dark Energy*



by Tom Pickett

Background image credit <http://www.galex.caltech.edu/>

October 19th



Dr. Tom Pickett, physics professor in the College of Science and Engineering of the University of Indiana. Tom earned his Ph.D. degree from Clemson University in 1988.

Photo credit: LaVerne Jones, USI

November 16th

An Update on the Museum Renovations

by Mitch Luman

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EAS Meeting Minutes -- September 21, 2012

The Meeting was called to order at 7:34 by President Scott Conner. There were 14 members present.

A motion was made to accept the minutes from August as written in the Newsletter. That motion was seconded and approved.

The president told us about the upcoming events which are as follows:

Twin Lakes		Oct 6-14		
Cleanup/ pot luck dinner	Saturday,	Oct 13	1:30pm	With dinner/ observing & PSW
Regular Meeting	Friday,	Oct 19	7:30pm	
Regular Meeting	Friday,	Nov 16	7:30pm	
Regular Meeting	Friday,	Dec 21	7:30pm	Mike Borman is Quiz Master

There were no visitors present.

The treasurer, Scott Bishop, told us about our Finances. Everything seems to be fine at this point with no major expenditures.

We still have some work to do in the dome. We need to do some more painting to finish the walls. If anyone has some time, there is paint available at the observatory to do the remaining work.

Old Business...

Last Saturday was the Ferdinand Folk Festival (FFF). It completely slipped my mind until Tony (Bryan) called me. I was thinking it was this Saturday, and so I did not make it to the event. David Kube and Ted Ubelhor were the only EAS members at the Festival. The location that Dave picked was in between the main drag and the music stage. This gave us a good view of the sun while still being in an area of traffic. Dave and Ted greeted about 400 - 500 visitors throughout the day. For future FFF events, Ted suggested we get a banner that reads "free solar viewing" to help draw the crowd to see the sun. We also discussed making a banner with our Evansville Astronomical Society name on it, which can be used for this event as well as other public appearances by the club. This was approved by the membership that was present at the meeting. We are looking at 2 x 10 banners. Dave Stephens volunteered to design the banners and offered to have them printed at his place of work. Dave Kube also mentioned two related items for future FFF events: (1) for wider publicity, we need to get EAS listed on the FFF program agenda, and (2) a table will no longer be supplied by FFF. Consequently, we will need to provide one in addition to the tent that we have already.

We are having our 1st annual Fall Cleanup with pot luck dinner and a PSW. It is a first for this type of event. It sounds like it will be a fun time for all involved. We will start at 1:30 pm with a cleanup which is expected to take about 3 hours depending on how many members can help.

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We will follow that with a pot-luck dinner. Everyone is asked to bring a dish. At this time, we are not planning to have a grill, so crock pot goodies are a good idea. After the meal, we will start setting up our telescopes for a night of observing. If it is bad weather, we will still do the cleanup and the pot luck dinner. It will be a good chance for all of us to set up our scopes together. Later in the evening, the public is invited to come share the fun with us as part of our monthly PSW. I am really hoping to get all our members to show up for this one of a kind event.

Ken Harris brought an example of a plastic protector cup that fits onto the bottom of our chair legs. It is about 1" in diameter and snaps onto the metal foot on the leg. We need 200 protectors to fit 50 chairs in the hall. Scott Conner volunteered to stop at Smith and Butterfields, or a similar business, to search for the plastic protectors.

New Business...

We have been asked to provide telescopes for an astronomy night at Delaware school sometime this fall. Several members have volunteered if the date works out. I will make contact with Delaware school to see when they want to set that up.

Don't forget that I plan to retire as president after this year. If you want to be the next president, now is the time to nominate yourself. Our nomination of officers occurs at the October meeting and election of officers is at the November meeting.

David Kube has approached his place of work about possibly getting a replacement riding lawn mower at a reduced price. We will know more in a few months. Scott Bishop said we could have possibly up to \$1000 for the purchase if necessary.

Scott Bishop also mentioned that we can apply for the Scripps Howard grant at the Evansville Courier. We need to finalize what our plan is for this one. Focus of the grant is on educational uses.

Programs for the rest of the year are as follows...

October	Tom Pickett	<i>Dark matter and Dark Energy</i>
November	Mitch Luman	<i>Museum renovations</i>
December	Mike Borman	<i>Astronomical Quiz</i>

The meeting ended at 8:00 pm and was followed by a program. It was titled *Visit to the Paris Observatory and the Meudon Observatory with additional views of astronomy in Paris* and was presented by Victor Lopez.

Submitted by: Scott Conner, President (as acting secretary)

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Post meeting note by editor: Victor provided a copy of his March 1979 article from *Sky and Telescope* during his program. It is titled *A Visit to Paris Observatory* and is an excellent read.