

M51 - Whirlpool Galaxy



Photo by Dave Kube

12 of 15 (5 minute) exposure combined with 15 (30 second) exposures, 5 Darks each
Taken with ATIK 460 CCD, Stacked with Nebulosity 4, Post Processed in Photoshop Elements 13

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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 2016 Officers and Contacts

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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 that we have a Regular Meeting scheduled for Friday, September 16th, 2016 at the Observatory beginning at 7:30pm. Program for September meeting is planned to be "Infrared Astronomy: What's so Hot about it?" Presentation, Demonstration and a 15 minute video.

EAS Update:

Please Note the Ferdinand Folk Festival is on Saturday September 17th, 2016 in the Ferdinand City Park. Festival begins @ 11am EDT. Contact Dave Kube if want to help.

EAS Update:

Please Note that on Saturday September 24th, 2016 we have a PSW scheduled at the Observatory beginning at 7:30pm.

EAS Update:

We have been invited to the LAS Star Party at their Curby Facility on Saturday October 1st, 2016. More details can be found in the August Newsletter on Page 5.

EAS Update:

Please Note that on Saturday October 8th, 2016 we have a PSW scheduled at the Observatory beginning at 7:30pm.

EAS Update:

Please Note that we have a Fall Cleanup scheduled for Saturday, October 15th, 2016 at the Observatory beginning at 10:00am.

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/forsale1.htm>

Most Mysterious Star in the Galaxy Doubles Down on its Mystique.



NASA, JPL-Caltech

New research points to Tabby's Star dimming immensely over a four year time period.

Everyone's favorite mysterious star KIC 8462852, otherwise known as Tabby's Star, has seen a lot of press in the past year, with its light dimming in an unusual way to the idea of aliens to a Kickstarter being completely funded just to continue studying this unusual star. But now, things have gotten even stranger.

Two researchers, Ben Montet from Caltech and Joshua Simon from the Carnegie Institute found evidence that not only did the star's light dip every now and again by up to 20 percent, the total stellar flux decreased continuously over all four years that Kepler studied it. The unpublished paper describing the results is available on arXiv.

When does a small star become a Brown Dwarf?



An artist's impression of TRAPPIST-1, a Jupiter-sized star with three potentially habitable planets in orbit around it. ESO/M. Kornmesser

Brown Dwarfs, Red Dwarfs, Ultracool Stars... What's the difference?

While the brightest stars can be easy to identify, their cooler cousins can be challenging to distinguish from the wannabes that never managed to reach stellar status. The difference can be huge when planets are involved, as with the three worlds orbiting the ultracool dwarf star TRAPPIST-1

Scientists often identify stars by colors, and the coolest objects are the red dwarfs. The term covers everything from the coolest stars to their counterparts, brown dwarfs, objects that bridge the gap between stars and planets.

"Red dwarfs are kind of a catch-all for cool star-like things in general, both brown dwarfs and ultracool stars," said Adam Burgasser, who studies the lowest mass objects at the University of California, San Diego. Although the term red dwarf is often used to reference dim stars known as M-dwarfs, there is no hard-and-fast official definition.

Black Holes can still shine a bright light, Astronomers say.



NASA-JPL / Caltech

For the first time, particles were detected escaping an artificially-created black hole, including evidence of Hawking Radiation.

Black holes aren't perfectly black. For the first time, using a model of a black hole that traps sound instead of light, scientists have seen spontaneous evidence of what comes out of them.

These particles are so few and faint that it's not feasible to observe them for an astrophysical black hole, so Jeff Steinhauer at Technion-Israel Institute of Technology made a tabletop version of a black hole that sucks in sound instead of light.

Using this, he's the first to see evidence for particles that escape a black hole, called Hawking radiation.

October 2016

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

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Up and Coming Events 2016

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

Ferdinand Folk Festival – Saturday September 17th @ 11am EDT @ Ferdinand City Park

PSW – Saturday, September 24th @ 7:30pm @ Observatory

LAS Star Party – Saturday October 1st @ 1pm EDT @ LAS Observatory, Near Curby, IN

PSW – Saturday, October 8th @ 7:30pm @ Observatory

Moon Phases

New Moon	First Quarter	Full Moon	Third Quarter
October 30 th , 2016	October 9 th , 2016	October 16 th , 2016	October 22 nd , 2016

[Moon Phases courtesey of Time and Date.com](http://Time and Date.com)

EAS MEETING for August 19th, 2016

CALL TO ORDER - by Vice President Tony Bryan @ 7:36pm with 14 members present

READING OF MINUTES - Secretary, Dave Kube read the minutes from July's meeting and motion to accept was carried.

UPCOMING EAS EVENTS

V. Pres., are there any up-coming special functions, Open Houses, (recent or soon)

Member only Obs Session	Saturday August 27	7:30pm
Regular Meeting	Friday, September 16	7:30pm
Ferdinand Folkfest	Saturday, September 17	11am
PSW (Public Star Watch)	Saturday, September 24	7:30pm
PSW (Public Star Watch)	Saturday, October 8	7:30pm
Fall Cleanup	Saturday October 15	10 am
Regular Meeting	Friday, October 21	7:30pm

VISITOR INTRODUCTION - (Introduce now) – No visitors

TREASURER'S REPORT - Treasurer, please report; (calendars, finances), We have 39 Paid memberships and 10 still from last year have not renewed at this time.

SPECIAL PROJECTS - Scott Conner is machining a plate for the attachment of the focuser for the Astro-Tech AT8RC 8" f/8 Richey-Cretien astrographic reflector. This will save us a load of money (parts are very expensive).

OLD BUSINESS

Moon Festival July 22-23 @ Museum – Report by Scott Conner: We helped out with the Moon Festival at the Evansville Museum of Art, History, and Science On July 26th. The weather was actually pretty good. We did have some cloud interference, but we managed to show Saturn, Jupiter, Mars and the Moon to many visitors. Many of our visitors were there because they were hunting Poke Mon with the Poke Mon Go app. It turns out that we were in a spot where there were 2 poke mon. We had a good turnout from club members as well.

PSW Saturday, Aug 6 - 8 pm - Report by Scott Conner: The skies were clear early, but we didn't have any visitors. We did however have 6 members show up. We did a little observing but the clouds moved in just before 10 PM.

Scott Conner gave a program for a Navigator Troup (Navigators USA, Chapter 111) on May 21st I believe. They sent a nice thank you card & you can look at it after the meeting tonight. It will be scanned and posted to the website.

Mike Borman placed two really cool 360 degree photos on the EAS website. Go to evansvilleastro.org to view.

Elmon Coe (non-member living in Owensboro) informed us a couple months ago that he has several pieces of telescope equipment for sale. Look in the August newsletter for details.

EAS OBSERVER NEWSLETTER

Don't forget Dues were due July 1st. If you have not had a chance to pay them please send a check payable to EAS PO Box 3474 Evansville, IN 47733.

NEW BUSINESS

Members Observing Session - We have our Members Observing Session scheduled for Saturday, August 27th. It will be here at the observatory starting at 7:30pm. It is weather permitting. Members and their guests are encouraged to bring up their telescopes and set them up in the Observatory yard for the event. If you don't have a scope come up and enjoy the evening looking thru other peoples scopes.

Ferdinand Folkfest - Dave Kube is coordinating. Details? 2- 3 members have said they would attend with another 2 maybe's. We have confirmed with Rock Emmert to setup as last year near the playground. Event starts a 11am EDT and need to be setup prior to this.

PSW - We have our next PSW on Saturday September 24th at 7:30 pm. It is always great to see member show up for the event.

Project Acorn of Ferdinand - Dave Kube is coordinating with Rock Emmert from the Project ACORN committee for a fun stargazing night this fall in the Ferdinand State Forest. "We're really looking forward to it--combining music while its daylight with stargazing in the dark with possibly a little homemade wine to share." The evening will likely be called "Strings, Stars, and Spirits". Project ACORN is an acronym for Art, Community, Originality, Rhythm, and Nature. Possible dates are: 10/22, 10/29, 11/12 Details? We are still in the planning stage at this time with no confirmed date and time.

LAS Star Party - The Louisville Astronomical Society (LAS) has invited the EAS and the Stone Belt Stargazers to join us at their Curby Dark Sky Site on Saturday, October 1 for a Star Party. There will be a First Come First Serve as the Property will Max out at about 40 Scopes. This 40 acre facility is located in Curby, IN just four miles south of Marengo Cave. It features five acres of observing fields, a 20X30 foot roll-off roof observatory with three telescopes and T2, our MPB building with a kitchen, classroom, air-conditioning and his and her restrooms. EAS members are welcome to camp overnight. We will have a pitch-in dinner at 6:00 PM, EDT. We will provide the hamburgers and hot dogs for \$5.00 per person and we ask that your members bring a side dish for twelve. Star Party participants can arrive as early as 1:00 PM for solar observing. Please present this to your members and **RSVP to megacoach@aol.com no later than September 17, 2016. A MAP is in EAS August newsletter.**

Fall cleanup is coming soon. Mark your calendars!

A total solar eclipse will take place one year and two days from today (on August 21st, 2017). Don't pass this up. Mitch Luman gave an update to the Museums plans for a reserved site possibly in Hopkinsville, KY.

2017 Calendars and Pens - Birk Fischer has donated Pens and EAS Calendars for the year 2017 available in our Lecture Hall.

Motion for New Lawnmower - Membership voted and approved a motion for the board members to investigate and purchase a new riding lawnmower. Dave Kube reported that as an employee of the Ariens Company he could purchase a company product and receive a 40% rebate off retail price. He would report to the board members his findings and make suggestions based on his discount.

PROGRAM

The program for Tonight: "The Asteriod That Flattened Mars" suggested by Dave Kube

ADJOURN MEETING-8:10pm