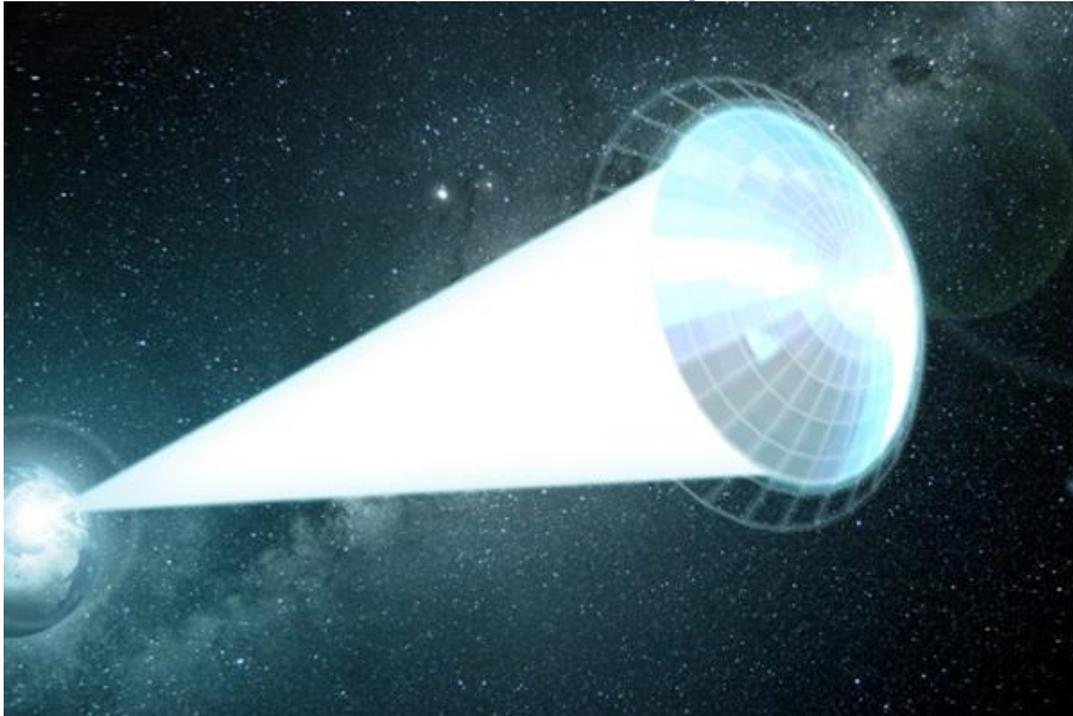


Alpha Centauri Seems Almost Within Grasp as Promising Research Soars into Reality



Researchers from UCLA and the University of Pennsylvania recently published two papers outlining various shapes and heat-dissipating materials they tested to evaluate lightsails beyond previous limits. The research was conducted in conjunction with the Breakthrough Starshot Initiative, a project with the goal of sending a microchip-sized probe to the Alpha Centauri system, which, at just over 4 light-years away, is the closest and possibly most habitable neighboring star system. Breakthrough Starshot plans to use a high-powered laser array to propel tiny lightsail probes through space at a top speed of some 20 percent the speed of light. Incorporated into the sails would be minuscule scientific instruments, such as cameras, magnetometers, and communicators that could beam information back to Earth as they fly through the Alpha Centauri system..

Photo Courtesy: Masumu Shibata, courtesy of Breakthrough Initiatives

Inside this Issue...

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

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 2022 Officers and Contacts

President – Tony Bryan
812.827.3234
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

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 an In-Person Meeting scheduled for 7:30 PM on Friday, April 8th, 2022 @ the Evansville Museum. Masks will be required at this time for all.

EAS Update

Please Note: We have Astronomy Day Scheduled at the Museum from 11:00 AM to 9:30 PM on Saturday, May 7th, 2022.

EAS Update

Please Note: We have a Zoom Meeting scheduled for 7:30 PM on Friday, May 20th, 2022.

EAS Update

Please Note: We have our Annual Picnic scheduled for Saturday, June 25th, 2022 @6:00 PM. Location TBA

EAS Update

EAS Update

EAS Update:

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

FOR SALE:

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>

Every few centuries the Sun blasts Earth with a huge amount of high-energy particles. If it were to happen today, it would wreak havoc on technology.



Every few centuries the Sun blasts Earth with a huge amount of high-energy particles. If it were to happen today, it would wreak havoc on technology.

Credit: Svein-Magne Tunli (tunliweb.no/Wikimedia)

On Sept. 1 and 2, 1859, telegraph systems around the world failed catastrophically. The operators of the telegraphs reported receiving electrical shocks, telegraph paper catching fire, and being able to operate equipment with batteries disconnected. During the evenings, the aurora borealis, more commonly known as the northern lights, could be seen as far south as Colombia.

What the world experienced that day, now known as the Carrington Event, was a massive geomagnetic storm.

Geomagnetic storms have been recorded since the early 19th century, and scientific data from Antarctic ice core samples has shown evidence of an even more massive geomagnetic storm that occurred around A.D. 774, now known as the Miyake Event. That solar flare produced the largest and fastest rise in carbon-14 ever recorded.

Geomagnetic storms trigger high amounts of cosmic rays in Earth's upper atmosphere, which in turn produce carbon-14, a radioactive isotope of carbon.

A geomagnetic storm 60 percent smaller than the Miyake Event occurred around A.D. 993. Ice core samples have shown evidence that large-scale geomagnetic storms with similar intensities as the Miyake and Carrington events occur at an average rate of once every 500 years.

Today, a geomagnetic storm of the same intensity as the Carrington Event would affect far more than telegraph wires and could be catastrophic. With the ever-growing dependency on electricity and emerging technology, any disruption could lead to trillions of dollars of monetary loss and risk to life dependent on the systems. The storm would affect a majority of the electrical systems that people use every day.

Drones Found the Meteorite that Lit up the Australian night sky.



Finding meteorites after they shoot across the night sky is notoriously difficult. Now astronomers have done it for the first time using drones and machine vision algorithms.

Credit: Lemonsoup14/Shutterstock

The Desert Fireball Network in Australia is a system of cameras that monitor the night sky looking for fireballs. The network ensures that several cameras view every region of the sky so that the trajectory of the incoming rock can be triangulated with reasonable accuracy.

When the Network detects a fireball, it is straightforward to work out the location of the meteorite landing site to within a few square kilometers. A team of astronomers is then dispatched to find it.

And therein lies the problem. A ground search over several square kilometers is time consuming and laborious. It usually consists of four to six people walking between five and ten meters apart who scour the area over a 4-day period until they find the culprit.

This team has accelerated the search using drones and powerful machine vision algorithms. Last year, they got the chance to test their approach for the first time by successfully recover a meteorite from the desert. "We report the first-time recovery of a fresh meteorite fall using a drone and a machine learning algorithm," they say.

May 2022

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7 Astronomy Day @Museum 11am-9:30p
8	9	10	11	12	13	14
15	16	17	18	19	20 Zoom Mtg 7:30pm	21
22	23	24	25	26	27	28
29	30	31				

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Up and Coming Events 2021

Please Note we have an In-Person Meeting scheduled for 7:30 PM on Friday, April 8th, 2022 @ The Evansville Museum – Masks will be Required for ALL.

Please Note we have Astronomy Day scheduled on Saturday May 7th, 2022 @ the Evansville Museum from 11 AM to 9:30 PM.

Please Note our Annual Picnic is scheduled for 6:00 PM on Saturday , June 25th, 2022

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
May 30 th , 2022	May 8 th , 2022	May 16 th , 2022	May 22 nd , 2022

[Moon Phases courtesy of Time and Date.com](http://www.timeanddate.com)

EAS Meeting Notes for March – 2022

On March 18th, 2022 the EAS held a zoom meeting for members and invited those from our Facebook Group to participate as well. The meeting began @ 7:34 pm.

There were 12 attendees to this meeting

EAS member Chuck Allen presented us with an informative and entertaining walkthrough of the OSIRIS-REx mission to and from the Asteroid Bennu.

Respectfully Submitted – Dave Kube – Secretary