



Monthly Notices of the Everglades Astronomical Society



Naples, FL
January 2016

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President's Message

It's a New Year with the same difficult viewing weather we have been dealing with. Unfortunately this has been the norm for the past couple of years. Hope things clear up. We have a busy outreach schedule coming up which we will be discussing at our monthly meeting. Also typically these next few months are the busiest FAK viewing nights especially with all our new and part-time residence here.

This Tuesday's meeting is a must to attend with Dr. Mario Motta giving the presentation. He has viewed with our club at the FAK and will be presenting on the construction of his 32-inch homemade observatory telescope and the science done with it. Dr. Motta has been very active in the astronomy field receiving several awards recognizing his achievements, all while keeping his "Day Job" as a Heart Specialist in Massachusetts! I am very much looking forward to introducing him and sharing his credentials prior to his presentation.

I would also like to give a special thanks to Charlie Paul for lining up the wonderful speakers this year. Charlie also coordinates our viewings, organizes our outreach events and in general helps keep our club (and me) organized. We greatly appreciate his many years of hard work and commitment to the EAS. I'm not sure who else would be willing to do all the things Charlie does and continues to do.

Lastly, be sure to check the great publications available on the Internet showing current and upcoming celestial events. Some of my favorites are <http://spaceweather.com/> and <http://www.skyandtelescope.com/observing/ataglance>. Another great resource I use is the Android App, "Mobile Observatory," which has an "Events" section that provides a comprehensive list that constantly updates.

Clear Skies, Todd Strackbein

Dates for the "Fak"

Usually the best times to go out to the Fakahatchee Strand viewing site are moonless nights. Below is a list of upcoming Saturday nights that you will often find fellow club members out there enjoying the skies with you (weather permitting).

Date	Moonrise	Moonset
Jan. 9	6:39 a.m.	5:49 p.m.
Jan. 30		11:10 a.m.

Sky Events

- Jan. 1 - Last quarter
- Jan. 9 - New Moon
- Jan. 12 - Triple Transit of Jupiter
- Jan. 12 - Comet Catalina is closest to Earth
- Jan. 16 - First Quarter
- Jan. 23 - Full moon

Next Meeting

January 12, 2016: Time 7:00 – 9:00 pm
Norris Center, Cambier Park



Mario Motta, M.D. (above) will be speaking at our January meeting about his homemade 32-inch telescope construction and images and science done with it.

WSP and Comet Catalina By Jackie Richards

The Winter Star Party 2016 is just five weeks away, so if you haven't purchased your ticket yet, you can still do so at this link. <http://scas.org/winter-star-party/wsp-schedule-and-registrati.html>.

Comet Catalina is a little higher in the sky this month and can be seen just to the left of Arcturus a few hours before dawn. It is moving northward away from the sun and passes closest to Earth on January 12th. There will be copies of the comet's ephemeris available at the next meeting if anyone is interested in trying to locate Comet Catalina. Good luck. It's not a bright comet and simply looks like a small, diffuse star. It took four mornings to find it last month.

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Published Articles by EAS Members

Ted Wolfe's article in the Naples News/Collier Citizen on December 14, 2015, Looking up: Our doppelganger nearby galaxy looks a lot like our long lost twin.

<http://www.naplesnews.com/community/collier-citizen/looking-up-our-doppelganger-nearby-galaxy-looks-a-lot-like-our-long-lost-twin-26dd780c-d1b9-0a26-e05-361791421.html>

TO VIEW THE ABOVE ARTICLE, PRESS "CTRL" AND LEFT CLICK BUTTON.

The below link provides previous articles in the Collier Citizen by Ted Wolfe that appeared over past years.
<http://search.naplesnews.com/jmg.aspx?k=looking+up+ted+wolfe>

PHOTOS BY EAS MEMBERS



M1 (Crab Nebula) taken by Chuck Pavlick at the Fak on 12/12/15; Scope: Celestron Edge 9.25w/Lepus 0.62 reducer; Mount: AP Mach 1 w/Orion mini guider w/PHD guiding; Camera: SBIG 8300 c; 10 @ 320 seconds; processed in Pixinsight.



Rosette Nebula by Chuck Pavlick taken in Cape Coral early January. Celestron Edge 9.25 w/Hyperstar; SBIG 8300c; Lumicon Deep Sky filter; processed in Pixinsight & Photoshop; 20 @ 120 seconds.

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Black Holes and Dark Matter, Working Together

By Katie McKissick

National Aeronautics and Space Administration

Dark matter is very mysterious. It makes up 27 percent of our whole universe, but we know very little about it. We can't measure it directly. It doesn't give off light or absorb it. We do know it has gravity, though, because we can see its pull on things like stars and galaxies.

Black holes are also very mysterious. A black hole is an area of such immense gravity that nothing—not even light—can escape from it. Black holes can form at the end of some stars' lives. The gravity holding the star together overwhelms the pressure of the hot gas, and it collapses in on itself producing a magnificent explosion. Some of the material from the star escapes in the explosion, while the rest, many times the mass of our sun, falls into an infinitely small point but keeps the same amount of gravity.

Scientists want to know more about dark matter and black holes, but they're very hard to study. But in a strange twist, the best way to learn about dark matter and black holes may be watching both of them at the same time.

EAS 2016 DUES

For the bargain price of only \$20.00 per family, all this can be yours this year:

- Meet with your fellow astronomy enthusiasts at least 10 times a year;
- Learn about astronomy and telescopes. Check out our club scope;
- Many opportunities to view planets, nebulae and other celestial objects (even if you don't have your own telescope); and
- Enjoy the many astronomy programs at our regular monthly meetings.

Don't miss out! Fill out this form (please print clearly) and send it with your \$20 check to the

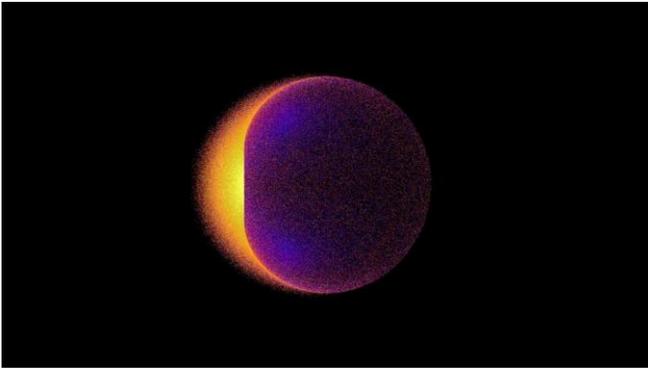
Everglades Astronomical Society, P. O. Box 1868,
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Name:

Address:

Phone:

Email:



This image shows the gamma-ray signal from the computer simulation of annihilations of dark matter particles. Lighter colors show higher energies. The highest-energy gamma rays come from the center of the crescent shape on the left, closest to the black hole's equator and event horizon. The gamma rays with the greatest chances of escape are on the side of the black hole that spins toward us. Such lopsided emission is typical for a rotating black hole.

Credit: NASA Goddard/Jeremy Schnittman

Scientists think that dark matter is probably made of tiny things called weakly interacting massive particles, which some call WIMPS for short. They hardly ever run into each other in wide-open outer space. But things get crowded around the gravitational pull of a black hole. There, it's much more likely that WIMPS could smash into each other. This is called annihilation. When it happens, WIMPS can release a burst of energy in the form of gamma rays. These are extremely high-energy rays, a thousand times more powerful than X-rays. Some of those gamma rays could escape the area around the black hole. They could make it all the way to us, and we could see them with our telescopes.

Right now, this is an idea based on computer simulations and lots of math. But if it turns out we can watch black holes and dark matter interact, we could learn a lot about both of these mysterious astronomical oddities. Who would have ever thought that combining two mysteries could lead to new answers?

Find out more about dark matter (and dark energy!) by visiting NASA Space Place: spaceplace.nasa.gov/dark-matter

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Items For Sale or Trade or Wanted:

http://www.naples.net/clubs/eas/equipment_sales.html

Useful links (software, telescope making, telescope and equipment suppliers, astronomical data sources, iPhone and iPad Apps and more):

<http://www.naples.net/clubs/eas/links.html>

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