



Monthly Notices of the Everglades Astronomical Society



Naples, FL
November 2016

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President's Message

Now that November is upon us, our snowbird members are starting to migrate south. I am looking forward to seeing them again.

In the last newsletter, I stated that we were trying something new. Mike Pavel from Boston agreed to do a Skype presentation. He did a great job and many thanks go out to him. Of course, this meant that I had to embrace technology. Those that know me best realized that I would need a lot of help. And so it was. Jackie Richards, Bart Thomas, Charlie Paul, Todd Strackbein, and the very accommodating associate from the AT&T store at the Coconut Point mall (Chris) were right there to make sure this presentation happened without a hitch. To them, my deepest thanks. Things went so well, both the presentation and the technology, that we are looking forward to more of these kinds of programs. So, if you know of someone from out of town who would be willing to give a Skype talk, please let me know and we'll try to set it up.

The Leonid Meteor Shower is coming up. These meteors are from the debris of Comet Tempel-Tuttle. The peak is November 17, 2016. This is early morning of the 17th, not the night of the 17th. The full moon (largest in 2016) is only three days earlier. This will make observing them a little more challenging. Although there have been a few years when many meteors have been observed, this year's predictions are between 10 and 15 per hour.

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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
Nov. 19	11:03 a.m.	11:30 p.m.
Nov. 26	4:20 a.m.	4:05 p.m.

Sky Events

Nov. 4	- Taurid Meteor Shower Peak
Nov. 7	- First Quarter
Nov. 14	- Full Moon
Nov. 17	- Leonid Meteor Shower Peak
Nov. 21	- Last Quarter
Nov. 28	- New Moon

Next Meeting

November 8, 2016: Time 7:00 – 9:00 pm
Norris Center, Cambier Park

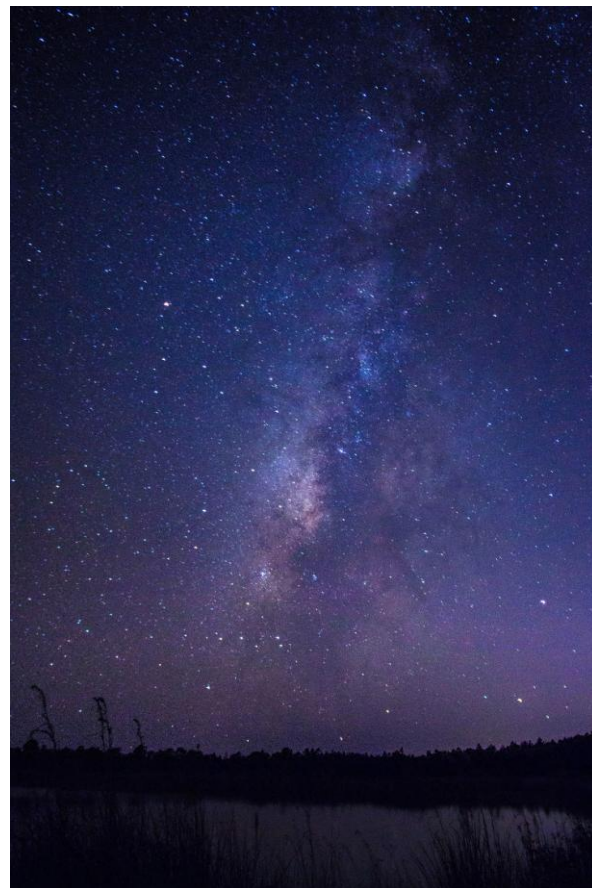


Photo by Marianne Simmons on 10/22/16 at the Fak.

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President's Message (Continued from Page 1)

The speaker for the next meeting, November 8, 2016, at 7:00 PM in the Norris Center, is Robyn Prichard. Her topic is Jupiter. This is a timely subject as this planet is now reappearing in the morning sky.

IMPORTANT REMINDER: Our next meeting is Election Day. Please be sure to plan to vote accordingly. Our meetings never run longer than 9:00 PM. You should be able to get home to start watching the results soon after they start coming in.

Clear skies,
Denise Sabatini

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Published Articles by EAS Members

Ted Wolfe's article in the Naples News/Collier Citizen on October 25, 2016, Looking Up: Exploring Space from our new 'digs' in Chile.

<http://www.naplesnews.com/story/news/local/communities/collier-citizen/2016/10/25/looking-up-exploring-space-our-new-digs-chile/92728438/>

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>

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Partial Solar Eclipse as can be Seen in Naples Contributed by Bart Thomas

There is an animation of the August 21, 2017 partial solar eclipse as seen from Naples on the below site (timeanddate.com). The animation shows the moon covering up the sun and the timeline.

<https://www.timeanddate.com/eclipse/in/usa/naples?iso=20170821>

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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Is Proxima Centauri's 'Earth-like' planet actually like Earth at all? By Ethan Siegel

Just 25 years ago, scientists didn't know if any stars—other than our own sun, of course—had planets orbiting around them. Yet they knew with certainty that gravity from massive planets caused the sun to move around our solar system's center of mass. Therefore, they reasoned that other stars would have periodic changes to their motions if they, too, had planets.

This change in motion first led to the detection of planets around pulsars in 1991, thanks to the change in pulsar timing it caused. Then, finally, in 1995 the first exoplanet around a normal star, 51 Pegasi b, was discovered via the "stellar wobble" of its parent star. Since that time, over 3000 exoplanets have been confirmed, most of which were first discovered by NASA's Kepler mission using the transit method. These transits only work if a solar system is fortuitously aligned to our perspective; nevertheless, we now know that planets—even rocky planets at the right distance for liquid water on their surface—are quite common in the Milky Way.

On August 24, 2016, scientists announced that the stellar wobble of Proxima Centauri, the closest star to our sun, indicated the existence of an exoplanet. At just 4.24 light years away, this planet orbits its red dwarf star in just 11 days, with a lower limit to its mass of just 1.3 Earths. If verified, this would bring the number of Earth-like planets found in their star's habitable zones up to 22, with 'Proxima b' being the closest one. Just based on what we've seen so far, if this planet is real and has 130 percent the mass of Earth, we can already infer the following:

- It receives 70 percent of the sunlight incident on Earth, giving it the right temperature for liquid water on its surface, assuming an Earth-like atmosphere.
- It should have a radius approximately 10 percent larger than our own planet's, assuming it is made of similar elements.
- It is plausible that the planet would be tidally locked to its star, implying a permanent 'light side' and a permanent 'dark side'.
- And if so, then seasons on this world are determined by the orbit's ellipticity, not by axial tilt.

Yet the unknowns are tremendous. Proxima Centauri emits considerably less ultraviolet light than a star like the sun; can life begin without that? Solar flares and winds are much greater around this world; have they stripped away the atmosphere entirely? Is the far side permanently frozen, or do winds allow possible life there? Is the near side baked and barren, leaving only the 'ring' at the edge potentially habitable?

Proxima b is a vastly different world from Earth, and could range anywhere from actually inhabited to completely unsuitable for any form of life. As 30m-class telescopes and the next generation of space observatories come online, we just may find out!

Looking to teach kids about exoplanet discovery? NASA Space Place explains stellar wobble and how this phenomenon can help scientists find exoplanets: <http://spaceplace.nasa.gov/barycenter/en/>



An artist's conception of the exoplanet Kepler-452b (R), a possible candidate for Earth 2.0, as compared with Earth (L). Image credit: NASA/Ames/JPL-Caltech/T. Pyle.

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EAS 2017 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, Marco Island, Florida, 34146.

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