



# Monthly Notices of the Everglades Astronomical Society



Naples, FL  
March 2011

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## President's Message

Well another month has come and gone! Fairly soon we will have three graduates of our First Annual Telescope Making event; they are all done except for installation of the mirrors. This Saturday will be the last Art in the Park event of the season. We need volunteers to spend a couple of hours at our tent talking about Astronomy and showing people the Sun. No experience is required, it's your enthusiasm that counts. sometime soon we will have a discussion on if we should continue the Art in the Park sessions - we have had some trouble looking at the afternoon Sun from our new location. Be sure to ask our members that attended, about the recently concluded Winter Star Party - sometime real soon we will get a full report about things that happened there!

Clear Skies,  
Mike Usher

## 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).

Fak Dates	Sun Set	Moonrise	Moonset
March 5	6:31 pm	6:54 am	7:24 pm
March 26	7:41 pm	2:12 am	1:00 pm
April 7	7:47 pm	9:33 am	11:36pm
April 30	7:58 pm	5:01 am	5:57 pm

## Next Meeting ( Bring a friend! )

March 8th, 2011  
Time 7:00 – 9 pm  
At the Norris Center, 755 8th Avenue South, Naples, FL

## Public Outreach Events

We will be doing a Solar observing, public outreach event. The Naples Artcrafters will hold its Fine Art and Craft Show at Cambier Park in downtown Naples from 10 a.m. to 4 p.m. Volunteers are always needed to help promote the club and educate the public.  
698 6th Ave S, Naples FL 34102

## Sky Events

Mar 4 -- New Moon  
Mar 12 -- First Quarter Moon  
Mar 19 -- Full Moon  
Mar 26 -- Last Quarter Moon

## Meteor Shower:

Name: **Lyrid\***  
Radiant and Direction: **Lyra (E)**  
Morning of Maximum: **Apr. 22**  
Hourly Rate: **10-20**  
Parent Body: **Thatcher (1861 I)**

## Start Parties:

The 27th ANNUAL WINTER STAR PARTY  
February 28 - March 6, 2011  
<http://www.scas.org>

## Astronomical Trivia Question of the Month

The X-rays of solar flares come primarily from high energy interactions of \_\_\_\_\_, and gamma rays primarily come from nuclear interactions of high energy \_\_\_\_\_ and other heavier ions.

- a. carbon, and iron
- b. electrons, and protons
- c. protons, and iron

\*Answer on next page.



## Thank Goodness the Sun is Single

By Trudy E. Bell

It's a good thing the Sun is single. According to new research, Sun-like stars in close double-star systems "can be okay for a few billion years—but then they go bad," says Jeremy Drake of the Harvard-Smithsonian Astrophysical Observatory in Cambridge, Mass.

How bad? According to data from NASA's Spitzer Space Telescope, close binary stars can destroy their planets along with any life. Drake and four colleagues reported the results in the September 10, 2010, issue of *The Astrophysical Journal Letters*.

Our Sun, about 864,000 miles across, rotates on its axis once in 24.5 days. "Three billion years ago, roughly when bacteria evolved on Earth, the Sun rotated in only 5 days," explains Drake. Its rotation rate has been gradually slowing because the solar wind gets tangled up in the solar magnetic field, and acts as a brake.

But some sun-like stars occur in close pairs only a few million miles apart. That's only about five times the diameter of each star—so close the stars are gravitationally distorted. They are actually elongated toward each other. They also interact tidally, keeping just one face toward the other, as the Moon does toward Earth.

Such a close binary is "a built-in time bomb," Drake declares. The continuous loss of mass from the two stars via solar wind carries away some of the double-star system's angular momentum, causing the two stars to spiral inward toward each other, orbiting faster and faster as the distance shrinks. When each star's rotation period on its axis is the same as its orbital period around the other, the pair effectively rotates as a single body in just 3 or 4 days.

Then, watch out! Such fast spinning intensifies the magnetic dynamo inside each star. The stars "generate bigger, stronger 'star spots' 5 to 10 percent the size of the star—so big they can be detected from Earth," Drake says. "The stars also interact magnetically very violently, shooting out monster flares."

Worst of all, the decreasing distance between the two stars "changes the gravitational resonances of the planetary system," Drake continued, destabilizing the orbits of any planets circling the pair. Planets may so strongly perturbed they are sent into collision paths. As they repeatedly slam into each other, they shatter into red-hot asteroid-sized bodies, killing any life. In as short as a century, the repeated collisions pulverize the planets into a ring of warm dust.

The infrared glow from this pulverized debris is what Spitzer has seen in some self-destructing star systems. Drake and his colleagues now want to examine a much bigger sample of binaries to see just how bad double star systems really are.

They're already sure of one thing: "We're glad the Sun is single!"

Read more about these findings at the NASA Spitzer site at <http://www.spitzer.caltech.edu/news/1182-ssc2010-07-Pulverized-Planet-Dust-May-Lie-Around-Double-Stars>. For kids, the Spitzer Concentration game shows a big collection of memorable (if you're good at the game) images from the Spitzer Space Telescope. Visit [spaceplace.nasa.gov/en/kids/spitzer/concentration/](http://spaceplace.nasa.gov/en/kids/spitzer/concentration/).

*This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.*



*Planetary collisions such as shown in this artist's rendering could be quite common in binary star systems where the stars are very close.*

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### Set For Launch:

<http://www.nasa.gov/missions/highlights/schedule.html>

Date: Feb. 24 +  
Mission: STS-133  
Launch Vehicle: Space Shuttle Discovery  
Launch Time: 4:50 p.m. EST

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### Answer to the trivia question:

The answer is **B**. The point being... as we move into solar maximum again, these bursts of X-rays and Gamma rays are our only warning before solar flares happen. Cars, smart phones, networks, and more can be effected. At the same time, every solar flare is a blessing in that they are a potential source of fuel for the fusion reactors of the future. Learning everything there is to know about the sun is a very practical and fascinating application of astronomy.

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### News From our web site:

Mike has published a wonderful how to guide for buying a first telescope.

[http://www.naples.net/clubs/eas/tutorials/Buying\\_Your\\_First\\_Telescope.pdf](http://www.naples.net/clubs/eas/tutorials/Buying_Your_First_Telescope.pdf)

### Items for Sale

<http://naples.net/clubs/eas/sales.html>

Aluminum ramps that telescope to 5-10' long. Perfect to roll your big dob into a van, SUV or pickup truck. New condition. \$150. See mfg. website. David Eimers, 239-353-4828, fishflash1@gmail.com, Club Affiliation: EAS; date posted: 27 November 2010.

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Handbook of Space Astronomy and Astrophysics - New; 782 pages; 338 B&W illustrations; 247 tables. 40% off list price for astronomy club members. A comprehensive compilation of the facts and figures relevant to astronomy and astrophysics. This handbook contains the most frequently used information in modern astronomy and astrophysics, and will be an essential reference for advanced amateur astronomers, university students, graduate students, researchers and professionals working in astronomy and the space sciences. For more information and to purchase the handbook click here.

Martin Zombeck, mvz@alum.mit.ed, Club Affiliation: EAS; date posted: 23 November 2010.

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I have a 20" Dobsonian reflector that I am willing to part with at a very low price. It has an objective mirror with a figure few reflectors have regardless of aperture (1/18 wave peak to peak wave front error). This telescope is a great value for anyone or group who is considering a large aperture telescope. Email me at jedw.1@netzero.net for a complete description, photos and price.

Jim Edwards, date posted: 15 November 2010.

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# 2011 Membership Dues:

For the bargain price of only **\$20.<sup>00</sup> per family**, all this can be yours for the coming year!

- ✓ Meet with your fellow astronomy enthusiasts at least 10 times a year.
- ✓ Many opportunities to freeze/sweat/get bitten by mosquitoes in the Fakahatchee Strand.
- ✓ View planets, nebulae and many other celestial objects.

**Don't miss out!** Fill out this form (please print plainly) and send it with your \$20 check, payable to:

## **Everglades Astronomical Society**

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