

Southwest Florida Astronomical Society

SWFAS



The Eyepiece April 2012

A MESSAGE FROM THE PRESIDENT

April is Astronomy Month!

We had a large turnout at the Three Oaks Family Fun day on March 31st. We had to dodge some clouds, but we had pretty good conditions most of the day. Thanks to Dick Gala and Tony Heiner for helping out at the event and Tami Kittle for help in prepping the handouts. On March 10th, I was out at Riverside Retreat in Alva for a church group. We were able to do solar observing, but the rain came in late in the afternoon and wiped out the evening plans. On the 19th, I did a private star party out on Sanibel for Tom Peck and friends. Tom is the gentleman who donated the CPC-800 to us last year. (I am looking at a return in April to show them Saturn. We observed off Island Inn Rd off Tarpon Rd, which was a very nice spot on the island. We are looking at doing more public events there.) On March 24th, I did some solar observing for the Lee County Parks and Rec Volunteer Brunch at Lakes Park.

On April 14th, I will be at Hickey's Creek Park for their 10th anniversary celebration doing solar observing and helping to promote Kelly Williamson's programs at the park. (She is getting married, so she will not be having programs again until the fall!)

I am looking into doing something publicly on April 28th for Astronomy Day. (Planetarium already has another activity that night.) We will have a 1st quarter moon, but Venus, Mars and Saturn will be well placed for observing.

I am looking for someone to help coordinate the club events for the Venus Transit June 5th. I will be out of town the last week of May until June 5th, so I really need someone to handle getting ready for the event.

This month we have Jack Berninger speaking again on ***Comets, Asteroids and Extinctions***. His presentation last month on extraterrestrials was quite interesting. This should be another excellent presentation.

I am seriously looking for help with club coordinators. We have had some resignations and will be actively looking for help filling in these positions.

Just a reminder, it is annual dues time again. Dues are \$20.00/year. I am sending out second reminders to all who have email. If you are getting this via regular mail, please check to see if you have paid your dues. Please pay at the meetings or events we are holding or send your payment in to SWFAS P.O. Box 100127, Cape Coral, FL 33910. If you have any questions about your dues, contact me.

CRP Star Party Schedule for 2012: April 21st, May 19th, June 23rd, July 21st, August 18th, September 15th, October 13th, November 10th, and December 15th. Please contact Bruce Dissette if you have any questions.

Ron Myrick has the following meeting programs scheduled on May 3rd: Dr Theo Koupelis, *Spectroscopy for non PhDs*.

The sky this month: Venus and Mars dominate the evening sky after sunset. On the 3rd, Venus is next to the Pleiades star Cluster. Saturn is very nicely placed near Spica and will be at opposition mid-month. Mercury is at greatest Western elongation in the morning sky on the 18th. Jupiter is rapidly slipping behind the sun, so will be out of observation range for a few months. Moon in April: Full moon on the 6th, Last Quarter on Friday the 13th, New on the 21st, First Quarter on the 29th.

Club Positions

President:

Brian Risley

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Vice President:

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Viewing Coords./

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Caloosahatchee

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Club Historian:

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Equipment Coordinator:

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Website Coordinator:

Dan Fitzgerald

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Astronomical League

Coordinator (ALCOR):

vacant

Newsletter Editor:

Carole Holmberg

CaroleHel@aol.com (239-275-3435)

Upcoming Meetings

Mr. Jack Berninger will speak on April 5th about *Comets, Asteroids, and Extinctions*. Dr Theo Koupelis will speak on May 3rd. His talk is titled *Spectroscopy for non PhDs*.

Flying Formation – Around the Moon at 3,600 MPH

The act of two or more aircraft flying together in a disciplined, synchronized manner is one of the cornerstones of military aviation, as well as just about any organized air show. But as amazing as the U.S. Navy's elite Blue Angels or the U.S. Air Force's Thunderbirds are to behold, they remain essentially landlocked, anchored if you will, to our planet and its atmosphere. What if you could take the level of precision of these great aviators to, say, the moon?

"Our job is to ensure our two GRAIL spacecraft are flying a very, very accurate trail formation in lunar orbit," said David Lehman, GRAIL project manager. "We need to do this so our scientists can get the data they need."

Essentially, trail formation means one aircraft (or spacecraft) follows directly behind the other. Ebb and Flow, the twins of NASA's GRAIL (Gravity Recovery And Interior Laboratory) mission, are by no means the first to synch up altitude and "air" speed while zipping over the craters, mountains, hills and rills of Earth's natural satellite. That honor goes to the crew of Apollo 10,

who in May 1969 performed a dress rehearsal for the first lunar landing. But as accurate as the astronauts aboard lunar module *Snoopy* and command module *Charlie Brown* were in their piloting, it is hard to imagine they could keep as exacting a position as Ebb and Flow. As the GRAIL twins fly over areas of greater and lesser gravity at 3,600 mph, surface features such as mountains and craters, and masses hidden beneath the lunar surface, can influence the distance between the two spacecraft ever so slightly.

How slight a distance change can be measured by the science instrument beaming invisible microwaves back and forth between Ebb and Flow?

How about one-tenth of one micron? Another way to put it is that the GRAIL twins can detect a change in their position down to one half of a human hair (0.000004 inches). For those of you who are hematologists or vampires (we are not judging here), any change in separation between the two twins greater than one half of a red corpuscle will be duly noted aboard the spacecraft's memory chips for later downlinking to Earth. Working together, Ebb and Flow will make these measurements while flying over the entirety of the lunar surface.

This begs the question, why would scientists care about a change of distance between two spacecraft as infinitesimal as half a red corpuscle a quarter million miles from Earth?

"Mighty oaks from little acorns grow – even in lunar orbit," said Maria Zuber, GRAIL principal investigator. "From the data collected during these minute distance changes between spacecraft, we will be able to generate an incredibly high-resolution map of the moon's gravitational field.

From that, we will be able to understand what goes on below the lunar surface in unprecedented detail, which will in turn increase our knowledge of how Earth and its rocky neighbors in the inner solar system developed into the diverse worlds we see today."

Today, the calendar for GRAIL's flight team remains a busy one with the day-to-day operations of keeping NASA's lunar twins in synch. But as busy as the team gets, they still have time to peer skyward.

"Next time you look up and see the moon, you might want to take a second and think about our two little spacecraft flying formation, zooming from pole to pole at 3,600 mph," said Lehman.

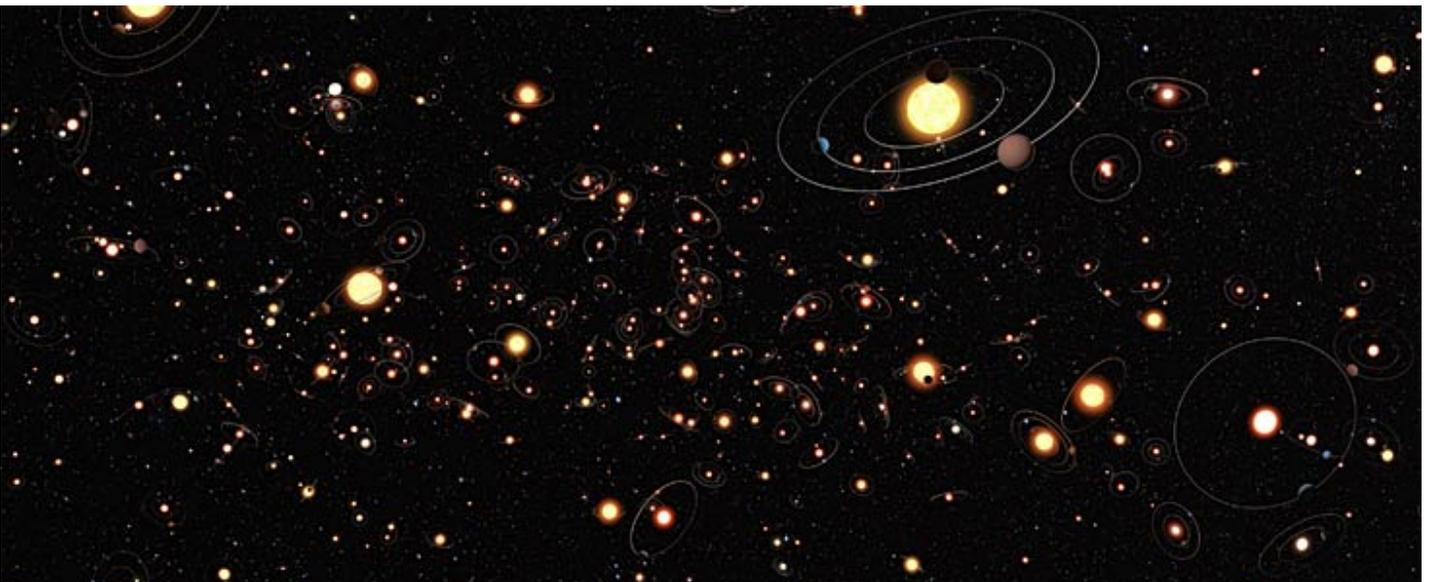
"They're up there, working together, flying together, getting the data our scientists need. As far as I'm concerned, they're putting on quite a show."

- For more information about GRAIL, visit: <http://www.nasa.gov/grail>

- The full version of this story with accompanying images is at:

http://www.jpl.nasa.gov/news/news.cfm?release=2012-089&cid=release_2012-089

Planet Population is Plentiful



An international team has used the technique of gravitational microlensing to measure how common planets are in the Milky Way. After a six-year search that surveyed millions of stars,

the team concludes that planets around stars are the rule rather than the exception. Over the past 16 years, astronomers have detected more than 700 confirmed exoplanets and have started to probe the spectra and atmospheres of these worlds. While studying the properties of individual exoplanets is undeniably valuable, a much more basic question remains: how commonplace are planets in the Milky Way?

Most currently known exoplanets were found either by detecting the effect of the gravitational pull of the planet on its host star or by catching the planet as it passes in front of its star and slightly dims it. Both of these techniques are much more sensitive to planets that are either massive or close to their stars, or both, and many planets will be missed.

An international team of astronomers has searched for exoplanets using a totally different method — gravitational microlensing — that can detect planets over a wide range of mass and those that lie much further from their stars.

The astronomers used observations in which exoplanets are detected by the way that the gravitational field of their host stars, combined with that of possible planets, acts like a lens, magnifying the light of a background star. If the star that acts as a lens has a planet in orbit around it, the planet can make a detectable contribution to the brightening effect on the background star.

Microlensing is a very powerful tool, with the potential to detect exoplanets that could never be found any other way. But a very rare chance alignment of a background and lensing star is required for a microlensing event to be seen at all. And, to spot a planet during an event, an additional chance alignment of the planet's orbit is also needed.

Although for these reasons finding a planet by microlensing is far from an easy task, in the six years' worth of microlensing data used in the analysis, three exoplanets were actually detected: a super-Earth, and planets with masses comparable to Neptune and Jupiter. By microlensing standards, this is an impressive haul. In detecting three planets, either the astronomers were incredibly lucky and had hit the jackpot despite huge odds against them, or planets are so abundant in the Milky Way that it was almost inevitable.

The astronomers combined information about the three positive exoplanet detections with seven additional detections from earlier work, as well as the huge numbers of non-detections in the six years' worth of data — non-detections are just as important for the statistical analysis and are much more numerous. The conclusion was that one in six of the stars studied hosts a planet of similar mass to Jupiter, half have Neptune-mass planets and two thirds have super-Earths. Combining the results suggests strongly that the average number of planets around a star is greater than one. They are the rule rather than the exception.

- <http://www.eso.org/public/news/eso1204/>

A New Star in Town

M51, also called the Whirlpool Galaxy, is actually a pair of colliding galaxies located about 23 million light-years away in the constellation Canes Venatici, not far from the tip of the handle of the Big Dipper. On May 30, 2011, French observer Amédée Riou detected a supernova explosion in the Whirlpool galaxy—the second such event in six years in M51, which is quickly earning a reputation for being a popular spawning ground for supernovae. Known as SN2011dh, the supernova resulted from the collapse of a dying star some 12 to 18 times as massive as the Sun. In this image of M51, taken by R. Jay GaBany on June 7, 2011, SN2001dh appears as a bright white star, located at about the two o'clock position, nestled inside the right-most spiral arm.



Kepler Discovers a Tiny Solar System

Astronomers using data from NASA's Kepler mission have discovered the three smallest planets yet detected orbiting a star beyond our sun. The planets orbit a single star, called KOI-961, and are 0.78, 0.73 and 0.57 times the radius of Earth. The smallest is about the size of Mars.

"This is the tiniest solar system found so far," said John Johnson from NASA's Exoplanet Science Institute. "It's actually more similar to Jupiter and its moons in scale than any other planetary system. The discovery is further proof of the diversity of planetary systems in our galaxy."



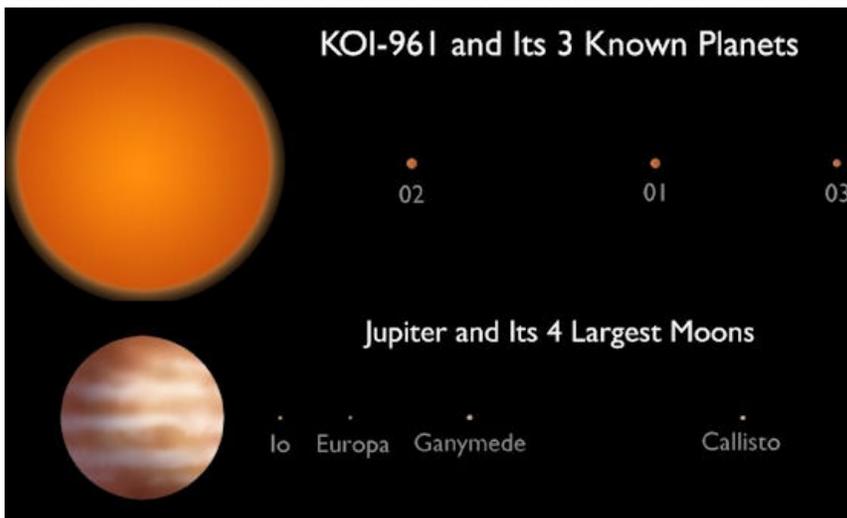
Caption: This artist's concept depicts an itty bitty planetary system -- so compact, in fact, that it's more like Jupiter and its moons than a star and its planets. Astronomers using data from Kepler and ground-based telescopes recently confirmed that the system, called KOI-961, hosts the three smallest exoplanets known so far to orbit a star other than our sun.

All three planets are thought to be rocky like Earth, but orbit close to their star. That makes them too hot to be in the habitable zone, which is the region where liquid water could exist. Of the more than 700 planets confirmed to orbit other stars -- called exoplanets -- only a handful are known to be rocky.

"Astronomers are just beginning to confirm thousands of planet candidates uncovered by Kepler so far," said Doug Hudgins, Kepler program scientist. "Finding one as small as Mars is amazing, and hints that there may be a bounty of rocky planets all around us."

Kepler searches for planets by continuously monitoring more than 150,000 stars, looking for telltale dips in their brightness caused by crossing, or transiting, planets. At least three transits are required to verify a signal as a planet. Follow-up observations from ground-based telescopes also are needed to confirm the discoveries.

The three planets are very close to their star, taking less than two days to orbit around it. The KOI-961 star is a red dwarf with a diameter one-sixth that of our sun, making it just 70% bigger than Jupiter.



Caption: This artist's concept compares the KOI-961 planetary system to Jupiter and the largest four of its many moons.

Red dwarfs are the most common kind of star in our Milky Way galaxy. The discovery of three rocky planets around one red dwarf suggests that the galaxy could be teeming with similar rocky planets.

"These types of systems could be ubiquitous in the universe," said Phil

Muirhead from Caltech. "This is a really exciting time for planet hunters."

- Production Editor: Dr. Tony Phillips, Credit: Science@NASA, full story at

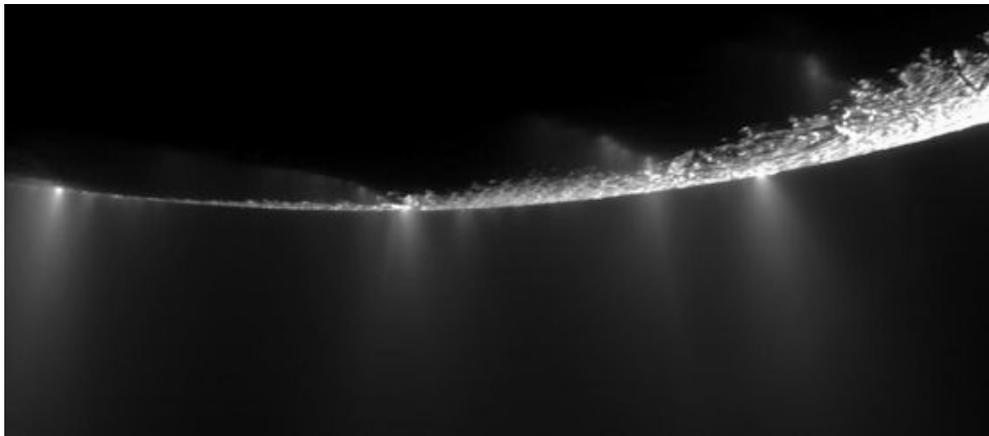
http://science.nasa.gov/science-news/science-at-nasa/2012/11jan_smallestexoplanets/

Is it Snowing Microbes on Enceladus?

There's a tiny moon orbiting beyond Saturn's rings that's full of promise, and maybe - just maybe - microbes.

In a series of tantalizingly close flybys to the moon, named Enceladus, NASA's Cassini spacecraft has revealed watery jets erupting from what may be a vast underground sea. These jets, which spew through cracks in the moon's icy shell, could lead back to a habitable zone that is uniquely accessible in all the solar system.

Caption: Dramatic plumes, both large and small, spray water ice from many locations near the south pole of Enceladus. More than 30 individual jets of different sizes can be seen in this image captured during a Cassini flyby Nov. 21, 2009.



"More than 90 jets of all sizes near Enceladus's south pole are spraying water vapor, icy particles, and organic compounds all over the place," says Carolyn Porco, leader of the Cassini Imaging Science team. "Cassini has flown several times now through this spray and has tasted it. And we have found that aside from water and organic material, there is salt in the icy particles. The salinity is the same as that of Earth's oceans."

Thermal measurements of Enceladus's fissures have revealed temperatures as high as -120°F . "If you add up all the heat, 16 gigawatts of thermal energy are coming out of those cracks," says Porco.

Caption: The watery plumes of Enceladus come from icy fissures nicknamed "tiger stripes."



She believes the small moon, with its sub-surface liquid sea, organics, and an energy source, may host the same type of life we find in similar environments on Earth.

"The kind of ecologies Enceladus might harbor could be like those deep within our own planet. Abundant heat and liquid water are found in Earth's subterranean volcanic rocks. Organisms in those rocks thrive on hydrogen (produced by reactions between liquid water and hot rocks) and available carbon dioxide and make methane, which gets recycled back into hydrogen. And it's all done entirely in the absence of sunlight or anything produced by sunlight."

But what makes Enceladus special is that its habitable zone offers itself up for easy access.

"It's erupting out into space where we can sample it. It sounds crazy but it could be snowing microbes on the surface of this little world. In the end, it's the most promising place I know of for an astrobiology search. We don't even need to go scratching around on the surface. We can fly through the plume and sample it. Or we can land on the surface, look up and stick our tongues out. And voilà...we have what we came for."

The source of Enceladus's heat appears to be Saturn itself. Researchers say Saturn's gravitational pull causes the moon's shape to change slightly on a daily basis as it orbits. Flexing motions in its interior generate heat--like the heat you feel in a paperclip when you bend it back and forth rapidly.



Caption: On March 27, 2012, Cassini flew just 46 miles above the south pole of Enceladus--and right through the spewing plumes.

"But the tidal flexing occurring now is not enough to account for all the heat presently coming out of Enceladus. One way out of this dilemma is to assume that some of the heat observed today was been generated and stored internally in the past."

Porco believes Enceladus's orbit could have been much more eccentric, and the greater the eccentricity, she says, the greater the tidal flexing and resulting structural variations that produce the heat. In this scenario, the heat would have been stored inside the little moon by melting some of the ice to recharge the liquid sea.

"Now that the orbit's eccentricity has lessened, the heat emanating from the interior is a combination of heat produced today and in the past. But since more heat is coming out presently than is being produced, Enceladus is in a cooling off stage and the liquid water is returning to ice. There are models to show that it never really freezes entirely, so the eccentricity may increase again, restarting the cycle."

Whatever is turning up the heat, Porco has a plan of action. It's simple: "We need to get back to Enceladus and check it out."

- Author: Dauna Coulter | Editor: Dr. Tony Phillips | Credit: Science@NASA

- http://science.nasa.gov/science-news/science-at-nasa/2012/27mar_enceladus/

The Planet in the Machine

By Diane K. Fisher and Tony Phillips



The story goes that a butterfly flapping its wings in Brazil can, over time, cause a tornado in Kansas. The "butterfly effect" is a common term to evoke the complexity of interdependent variables affecting weather around the globe. It alludes to the notion that small changes in initial conditions can cause wildly varying outcomes.

Now imagine millions of butterflies flapping their wings. And flies and crickets and birds. Now you understand why weather is so complex.

All kidding aside, insects are not in control. The real "butterfly effect" is driven by, for example, global winds and ocean currents, polar ice (melting and freezing), clouds and rain, and blowing desert dust. All these things interact with one another in bewilderingly complicated ways.

And then there's the human race. If a butterfly can cause a tornado, what can humans cause with their boundlessly reckless disturbances of initial conditions?

Understanding how it all fits together is a relatively new field called Earth system science. Earth system scientists work on building and fine-tuning mathematical models (computer programs) that describe the complex inter-relationships of Earth's carbon, water, energy, and trace gases as they are exchanged between the terrestrial biosphere and the atmosphere. Ultimately, they hope to understand Earth as an integrated system, and model changes in climate over the next 50-100 years. The better the models, the more accurate and detailed will be the image in the crystal ball.

NASA's Earth System Science program provides real-world data for these models via a swarm of Earth-observing satellites. The satellites, which go by names like Terra and Aqua, keep an eye on Earth's land, biosphere, atmosphere, clouds, ice, and oceans. The data they collect are crucial to the modeling efforts.

Some models aim to predict short-term effects—in other words, weather. They may become part of severe weather warning systems and actually save lives. Other models aim to predict long-term effects—or climate. But, long-term predictions are much more difficult and much less

likely to be believed by the general population, since only time can actually prove or disprove their validity. After all, small errors become large errors as the model is left to run into the future. However, as the models are further validated with near- and longer-term data, and as different models converge on a common scenario, they become more and more trustworthy to show us the future while we can still do something about it—we hope.

For a listing and more information on each of NASA's Earth data-gathering missions, visit <http://science.nasa.gov/earth-science/missions/>. Kids can get an easy introduction to Earth system science and play Earthy word games at <http://spaceplace.nasa.gov/ecosphere>.

Caption: CloudSat is one of the Earth-observing satellites collecting data that will help develop and refine atmospheric circulation models and other types of weather and climate models. CloudSat's unique radar system reads the vertical structure of clouds, including liquid water and ice content, and how clouds affect the distribution of the Sun's energy in the atmosphere. See animation of this data simulation at www.nasa.gov/mission_pages/calipso/multimedia/cloud_calip_mm.html.



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



Hello Night Sky Network StarGazers!

Quarterly Prize Drawing in April

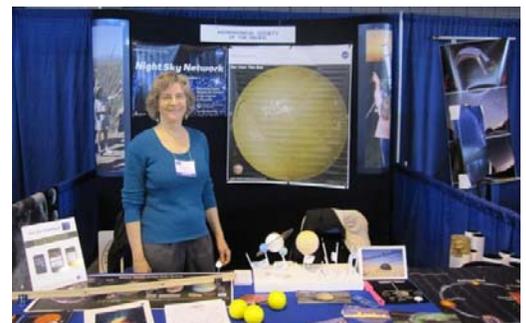
Five lucky clubs will each receive 100 pairs of Solar Viewing glasses in time for the eclipse and Venus Transit! Graciously donated by the Charlie Bates Solar Astronomy Project! Be sure to log your events by April 8th. The drawing will be held on April 9th. You're really going to want to log your events this quarter! Each event you log using NSN Resources gives you an entry in the April 9th drawing and logging two events makes your club eligible to receive the new ToolKit, Our Magnetic Sun, in early May.

Distant Suns app shines a light on NSN's astronomy events! Free publicity!

We've got a fantastic new partnership with Distant Suns astronomy app that really benefits NSN clubs. With Distant Suns you can tour the Solar System, find out what's up in the sky, and now you can find NASA Night Sky Network (NSN) astronomy events using the app. Explore Distant Suns and enjoy the free publicity. Read more.

Meet at NEAF?

Are you going to the Northeast Astronomy Forum (NEAF) in New York, April 28-29? Be sure to stop by the Astronomical Society of the Pacific / Night Sky Network booth! We will be demonstrating how amateur astronomers like you are helping to expand the hobby through public outreach. On



Sunday at 1:30, attend our presentation *Ten Common Challenges Astronomy Clubs Face and the Keys to Solving Them*. We're very excited about being at NEAF again this year and look forward to seeing you there.

GAM and Astronomy Day!

NSN is joining Astronomers Without Borders for Global Astronomy Month 2012 (GAM 2012) in April! Astronomers around the globe are organizing events for the world's largest celebration of astronomy, sharing the Universe with others under the motto, One People, One Sky. Here are some important dates: April 1 SunDay, April 1-7 Lunar Week, April 15 Saturn Watch, April 21-22 Lyrid Watch, April 28 Global Star Party

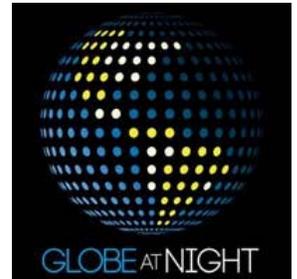


10 Ways to Get Involved in GAM 2012

There are already lots of events on the NSN calendar for both Astronomy Day and GAM, and we're sure there will be a lot more! Also, The Astronomical League is publicizing events on or near Astronomy Day, Saturday, April 28, 2012 on their website.

Protect your night skies. Participate in the GLOBE at Night campaign!

Calling all Earthlings! Get involved in the GLOBE at Night campaign to preserve dark skies! Please join us to participate in the 2012 campaign an hour after sunset til about 10pm April 11 through 20. For information and resources, visit www.globeatnight.org. If you've participated in past GLOBE at Night Telecons through the Night Sky Network, we'd like to follow up with you. Please send an email at globeatnight@noao.edu and we'll send you a survey. As a thank you for your time, you will have the opportunity to enter a lottery to receive a Sky Quality Meter.



AstroSocial - byte-sized info on social media

We have a unique benefit for Night Sky Network Fans on Facebook - tons of amateur astronomers who know lots about space! Do you love outreach? Then the NSN Facebook page is a great place to answer questions and get people more engaged in astronomy. The more amateurs there are to answer questions, the more lively the community!

We recommend *Use Facebook to Get More Out of Your Hobby* by Michael E. Bakic in the April 2012 edition of Astronomy Magazine (p. 56). If you're a NSN club member, don't forget, you get a discount on a variety of magazine subscriptions. Log in to NSN and then go to Magazine Subscriptions and Links!

Spread the word about Go StarGaze, the NSN iPhone app that helps you find NSN astronomy clubs and events and Distant Suns, the astronomy app that lists NSN events!



The NASA Night Sky Network is managed by The Astronomical Society of the Pacific.

Wishing you clear skies and oodles of outreach,

- Marni Berendsen, Vivian White, and Jessica Santascioy, Night Sky Network

SWFAS Minutes

Meeting Date: February 2nd, 2012

CALL TO ORDER: The monthly meeting of the Southwest Florida Astronomical Society was held at the Calusa Nature Center and Planetarium, Ft Myers, Florida, on Thursday, February 2, 2012. The meeting convened at 7:30pm, President Brian Risley presiding, and Kathleen Hendrix, secretary.

MEMBERS IN ATTENDANCE: There were approximately 35 members and visitors in attendance.

OPENING REMARKS: President Brian Risley explained Honorary Membership, an honor bestowed on members who have contributed a great deal to education, outreach, and activities of the club. Framed certificates of Honorary Membership were then presented to Dr. Theo Koupelis, Manuel, Mon, Mark E. Kelly, Dr. Angela Meyer, and Carol Holmberg. Brian reported a successful presentation at Mother of God. Other events such as Edison Day, South County Library, St Michael's Youth group, and Canterbury were difficult due to cloudy conditions. See the newsletter for upcoming February events.

VICE PRESIDENT'S REPORT: Bruce Dissette, Vice President, reminded members to see the Night Sky Network's new home page.

NEWSLETTER EDITOR'S REPORT: Carol Holmberg, Newsletter Editor, continues to publish the much appreciated Newsletter each month.

SECRETARY'S REPORT: Secretary, Kathleen Hendrix, submitted December minutes by way of the Newsletter. December minutes were approved as published. There were no minutes from January, as the club met at FGCU.

TREASURER'S REPORT: Brian reported a total balance of \$1994.81. A detailed report is available upon request.

VIEWING COORDINATORS' REPORT: Viewing Coordinators, Chuck Pavlick, Tony Heiner, and Bruce Dissette reported cloudy conditions during recent observations. Chuck requested that members please contact him if they plan to attend his observations.

LIBRARIAN'S REPORT: Librarian Maria Berni. No report.

CLUB HISTORIAN: Club Historian Danny Secary. No report.

EQUIPMENT COORDINATOR: Equipment Coordinator Brian Risley reported that the 6" telescope is out.

WEBSITE COORDINATOR: Website Coordinator, Dan Fitzgerald. No report.

PROGRAM COORDINATOR: Program Coordinator Ron Myrick reported that speakers have been scheduled through April 2012.

EVENING PROGRAM; Dr. Theo Koupelis, professor at Edison State University, gave an informative presentation, *Unstable Solar Dynamics*, on the importance of increased solar flares, magnetic fields and sunspot activity.

CLOSING REMARKS, ANNOUNCEMENTS: Brian thanked Dr. Koupelis for his entertaining presentation and for his support. Dr Koupelis thanked the club for his Honorary membership.

ADJOURNMENT: The meeting was adjourned. Thursday March 1, 2012 was set as the next meeting. The February meeting was adjourned at 9:40 pm.

- Kathleen Hendrix, Secretary

Meeting Date: Thursday, March 1, 2012

CALL TO ORDER: The monthly meeting of the Southwest Florida Astronomical Society was held at the Calusa Nature Center and Planetarium, Ft Myers, Florida, on March 1, 2012. The meeting convened at 7:30pm, President Brian Risley presiding, and Kathleen Hendrix, secretary.

MEMBERS IN ATTENDANCE: There were approximately 35 members and visitors in attendance.

OPENING REMARKS: President Brian Risley opened the meeting by introducing new members and visitors to our ever growing club. He then reviewed upcoming events and requests. These include:

Mar 10th - St Michaels Family retreat-Riverside Retreat, Alva

Mar 31st- Three Oaks Elementary Family Fun Day

April 28th- Astronomy Day -location to be announced

June 5th- Transit of Venus

Sept 22-International Observe the Moon Night

Homeschooling event has been requested, still under discussion

Regarding recent events, the recent Burrowing Owl Festival clouded over by noon unfortunately.

However the Rotary park star party cleared miraculously by 7:30pm and was very successful.

VICE PRESIDENT'S REPORT: Bruce Dissette, Vice president, reported recently viewing the moons of Jupiter very clearly.

NEWSLETTER EDITOR'S REPORT: Carol Holmberg, Newsletter Editor, continues to publish the much appreciated Newsletter each month.

SECRETARY'S REPORT: Secretary, Kathleen Hendrix, dispensed with reading minutes. See The Eyepiece for the most recently submitted minutes.

TREASURER'S REPORT: Brian is still taking care of the club treasury duties. A detailed report is available upon request.

VIEWING COORDINATORS' REPORT: Viewing Coordinators, Chuck Pavlick, Tony Heiner, and Bruce Dissette.

The following Star parties are planned: Caloosahatchee Regional Park- Mar 24, April 21, May 19, June 23, July 21, Aug 18, Sept 15, Oct 13, Nov 10, Dec 15. Contact Bruce for information Fakahatchee Strand Mar 28, others to be announced. Contact Tony or Chuck for information.

LIBRARIAN'S REPORT: Librarian Maria Berni reported that new books and materials have just been donated to the club and are in the process of being catalogued . Members are welcomed to borrow these materials.

CLUB HISTORIAN: Club Historian Danny Secary-no report

EQUIPMENT COORDINATOR: Equipment Coordinator Brian Risley reported that the 6" telescope has been repaired and a new 4.5" has been donated.

WEBSITE COORDINATOR: Website Coordinator, Dan Fitzgerald-no report.

PROGRAM COORDINATOR: Program Coordinator Ron Myrick. Upcoming speakers include: April 5th- Jack Berringer, *Comets, Asteroids, and Extinctions* and May 3rd- Dr Theo Koupelis, *Spectroscopy for non PhDs*.

EVENING PROGRAM; Our program for the evening was given by Jack Beringer. The topic was *The Search for Extra-Terrestrials*. Mr Beringer is a biologist with the Cincinnati Astronomical

Society. His specialties are theology, philosophy, sociology, and biology. His talk was both entertaining and thought provoking, examining the probability of life in the universe and its possible forms. We look forward to his future presentations.

ADJOURNMENT: Thursday April 5th 2012 was set as the next regular meeting. The March 1st meeting was adjourned at 9:15pm.

- Kathleen Hendrix, Secretary

Future Events

CALUSA NATURE CENTER PLNTRM	4-5-12	7:30 PM	MONTHLY MEETING
CALOOSAHATCHEE REGIONAL PARK	4-21-12	DUSK	STAR PARTY
ASTRONOMY DAY	4-28-12		
CALUSA NATURE CENTER PLNTRM	5-3-12	7:30 PM	MONTHLY MEETING
CALOOSAHATCHEE REGIONAL PARK	5-19-12	DUSK	STAR PARTY
ANNULAR SOLAR ECLIPSE	5-20-12	VISIBLE FROM WESTERN US, NOT FROM SW FLORIDA	
TRASIT OF VENUS	6-5-12		

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