



STAR STUFF

The Newsletter of the Ford Amateur Astronomy Club

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Space Buoys

Dr. Tony Phillips

Congratulations! You're an oceanographer and you've just received a big grant to investigate the Pacific Ocean.

Your task: Map the mighty Pacific's wind and waves, monitor its deep currents, and keep track of continent-sized temperature oscillations that shape weather around the world. Funds are available and you may start immediately.

Oh, there's just one problem: You've got to do this work using no more than one ocean buoy.

"That would be impossible," says Dr. Guan Le of the Goddard Space Flight Center. "The Pacific's too big to understand by studying just one location."

Yet, for Dr. Le and her space scientist colleagues, this was exactly what they have been magnetosphere is an "ocean" of magnetism and plasma surrounding our planet. Its shores are defined by the outer bounds of Earth's magnetic field and it contains a bewildering mix of matter-energy waves, electrical currents and plasma oscillations spread across a volume billions of times greater than the Pacific Ocean itself.

"For many years we've struggled to understand the magnetosphere using mostly single spacecraft," says Le. "To really make progress, we need many spacecraft spread through the magnetosphere, working together to understand the whole."

Enter Space Technology 5.

...continued on page 3

Thanks to Those Supportive Significant Others

President's Corner

Doug Bauer, FAAC President

Astronomy is one of those hobbies that requires a very supportive significant other (or no significant other!)

It takes a very understanding person to allow you to schedule vacations around a new moon and then spend them awake all night and sleeping during the day, while they take the kids somewhere so we can sleep.

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STAR STUFF

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FORD AMATEUR ASTRONOMY CLUB
P.O. Box 7527
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VICE PRESIDENT:	Gordon Hansen
SECRETARY:	Ken Anderson
TREASURER:	Steve Flessa
NEWSLETTER EDITOR:	Dale Ochalek

Club Information:

The Ford Amateur Astronomy Club (FAAC) meets on the fourth Thursday each month, except for the combined November/December meeting on the first Thursday of December – at Henry Ford Community College, Administrative Services and Conference Center in Dearborn. Refer to our website for a map and directions (www.boonhill.net/faac).

The FAAC observes at Spring Mill Pond within the Island Lake State Recreation Area near Brighton, Michigan. The club maintains an after-hours permit, and observes on Friday and Saturday nights, and nights before holidays, weather permitting. The FAAC also has use Richmond Airport, Unadilla, given prior permission, and Lake Erie MetroPark. See the FAAC Yahoo Group* for more information.

Observing schedules and additional info are available on our website, or via the FAAC Yahoo Group.* Or call the **FAAC Hotline**, for info, and leave a message, or ask questions: **248-207-2075**. Or send email inquiries to fordastronomy@comcast.net.

Membership in the FAAC is open to anyone with an interest in amateur astronomy. The FAAC is an affiliate of the Ford Employees Recreation Association (F.E.R.A.). Membership fees:

Annual – New Member:	\$30	(\$15 after July 1)
Annual – Renewal:	\$25	(\$30 after January 31)

Membership includes the *STAR STUFF* newsletter, discounts on magazines, discounts at selected area equipment retailers, and after-hours access to the Island Lake observing site.

Astronomy or Sky & Telescope Magazine Discounts

Obtain the required form from the FAAC club treasurer for a \$10 discount. Send the completed form directly to the respective publisher with your subscription request and payment. Do not send any money directly to the FAAC for this.

Star Stuff Newsletter Submissions

Your submissions to *STAR STUFF* are more than welcome! Send your story and/or images to the editor at dake00k@yahoo.com. Email text or MS Word is fine. *STAR STUFF* will usually go to press the weekend prior to each general meeting. Submissions received prior to that weekend can be included in that issue.

* FAAC Members are welcome to join our **FordAstronomyClub** Yahoo! Group. Messages, photos, files, online discussions, and more! URL: groups.yahoo.com/group/FordAstronomyClub.

President's Corner... (continued from page 1)

Then there is the expensive equipment. They have to listen endlessly to our whining about what toy we need next and how we can fit it into the budget (but we can't seem to fit new furniture into the budget). And there seems to be no end to the new equipment that is available. Sometimes I think that there may be a profitable future in astronomy addiction treatment centers.

Along with the equipment comes the astronomy babble. You know, talking using terms no one else has ever heard, complete with the requisite acronyms. "I'm going out to look at the solar prominences and SME's with the H-Alpha filter to see if ..." Which gets heard by significant others as "Blah, Blah, Blah, Blah, I'm going outside."

Oh yes, the storage problems. Who among us doesn't have more than our allotted space in our home? Each closet filled with equipment, some of which hasn't seen the dark of night for years, but we can't let it go. Why, one amongst us even bought a van so that he could store the overflow inside of it, out of site of his significant other.

Magazines! OMG (Oh My God) – yes, they are piled next to our favorite reading areas. For guys, that may also result in physical problems like seriously numb legs (why do they make those articles in Sky & telescope so long?). We never seem to throw these magazines out either! I'm sure there are those among us who have the first issue of Sky & Telescope written on papyrus (come on Bob FitzGerald, fess up!).

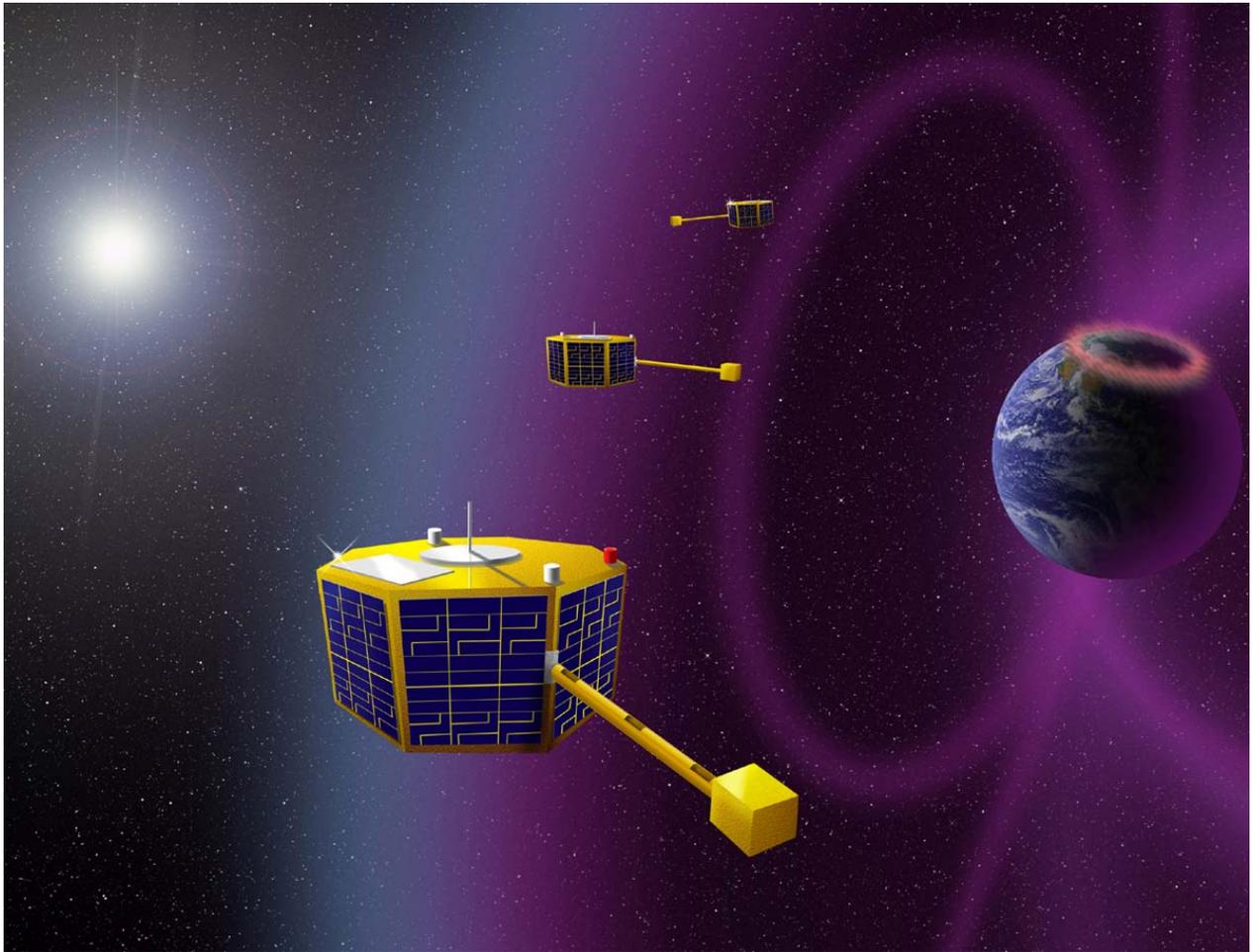
Of course, there are also those sudden unplanned trips to the dark observing sites. It could just be a coincidence that they usually occur on the same night that we are supposed to go to dinner with that couple that bore us to tears or the night of our significant other's office party.

If you have a significant other who tolerates your obsession with astronomy, do something to show them some appreciation. Buy them a new Ethos eyepiece!

Just kidding! Give them a hug and thank them for their tolerance. Maybe a nice dinner out, but not on a new moon night. ;o)

Thank You!

Doug Bauer



The Space Technology 5 micro-satellites proved the feasibility of using a constellation of small spacecraft with miniature magnetometers to study Earth's magnetosphere.

In March 2006 NASA launched a trio of experimental satellites to see what three "buoys" could accomplish. Because they weighed only 55 lbs. apiece and measured not much larger than a birthday cake, the three ST5 "micro-satellites" fit onboard a single Pegasus rocket. Above Earth's atmosphere, the three were flung like Frisbees from the rocket's body into the magnetosphere by a revolutionary micro-satellite launcher.

Space Technology 5 is a mission of NASA's New Millennium Program, which tests innovative technologies for use on future space missions. The 90-day flight of ST5 validated several devices crucial to space buoys: miniature magnetometers, high-efficiency solar arrays, and some strange-looking but effective micro-antennas designed from principles of Darwinian evolution.

Also, ST5 showed that three satellites could maneuver together as a "constellation," spreading out to measure complex fields and currents.

"ST5 was able to measure the motion and thickness of current sheets in the magnetosphere," says Le, the mission's project scientist at Goddard. "This could not have been done with a single spacecraft, no matter how capable."

The ST5 mission is finished but the technology it tested will key future studies of the magnetosphere. Thanks to ST5, hopes Le, lonely buoys will soon be a thing of the past.

Learn more about ST5's miniaturized technologies at nmp.nasa.gov/st5. Kids (and grownups) can get an understanding of the artificial evolutionary process used to design ST5's antennas at spaceplace.nasa.gov/en/kids/st5/emoticon.

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

May 22 Meeting Minutes

Ken Anderson

Minutes for the May 22 general meeting are not complete at the time of this publication. Look soon to the FAAC site on Yahoo Groups - <http://tech.groups.yahoo.com/group/FordAstronomyClub/>

Meeting Agenda - June 26

5:30 pm HFCC - Rosenau CR - Admin. Services & Conference Center

(For map see:

http://www.hfcc.edu/contact/campus_maps.pdf)

Opening/Introduction/Member Observing

Presentation: The Hubble Constant: an Historical Perspective – Dale Partin – WAS

Tech Talk: FAAC Clubware Fashion Show – Diane Worth – FAAC

ClubBusiness/Secretary/Treasurer/Equipment

Club Projects/Committees/Member Support

- **Astro-Imaging SIG**
- **Astronomical League Membership**
- **Dark Sky**
- **Club Telescope Committee**
- **Lincoln Park Observatory Restore**
- **Open Discussion**

Items for Sale

Schmidt-Newtonian 10" – F5.35, 1360 mm focal length with 2" focuser, 60 mm guide scope, Thousand Oaks Full aperture solar filter (Mylar). Cooling fan, extra set of "O" rings, Optron Corrector plate. Crestliner mount (on wheels) available. Scope made by Nelson Lewis of Detroit Astronomical Society in 1962. Purchased 1981. Selling telescope for \$325. Mount for \$200.

Contact Harold Thomason 313-584-7465

Coulter 10" Dobsonian telescope. \$400.
Contact Bob Stonik, 313-361-4954

VIXEN R130sf Newtonian 130mm telescope on a Vixen Porta Mount, \$350. Includes an eyepiece and a Red Dot Finder. The scope diameter is 130mm (5"), the focal length is about 1050 mm. Porta Mount itself lists for \$399.

There is no case or bag for the legs. Just a great deal on a good scope and a great mount.

Contact Tom Blaszk, key_string_guy@yahoo.com

Treasurer's Report

Steve Flessa

Account	4/21/2008 Balance
Bank Accounts	
Checking	\$872.25
Savings	\$1,855.50
TOTAL Bank Accounts	\$2,727.75
Cash Accounts	
Cash Account	\$150.00
TOTAL Cash Accounts	\$150.00
Investment Accounts	
Certificates of Deposit	\$2,071.38
Asset Accounts	
Equipment	\$621.96
Scholarship	\$287.05
TOTAL Asset Accounts	\$909.01
OVERALL TOTAL	\$5,858.14
Memo:	
GLAAC	\$2,615.62

FAAC Events 2007

Bob MacFarland

July	12 – Beginners' Night, Island Lake Recreation Area, Lake Erie MetroPark
August	9 – Beginners' Night, Island Lake Recreation Area, Lake Erie MetroPark
September	5-6 – Astronomy on the Beach – GLAAC, Kensington Park 25-28 – Great Lakes Star Gaze, Gladwin 29-Oct. 4 – Astro-Imaging Workshop, Gladwin
October	4 – Beginner's Night - Island Lake, Lake Erie MetroPark

Astro Imaging SIG

Tony Licata

Gallery Submissions Requested!

If you have any interesting photos, astronomy related or not, please send them to tglicata@aol.com as JPG attachments.

The SIG gallery of images will be viewed during each SIG meeting. A reminder will be posted periodically on the Yahoo group for gallery submissions.

The next meeting of the Astro Imaging SIG will be Thursday, July 10th, 2008, 5:30 pm at Henry Ford Community College in Dearborn, in the Administrative Services & Conference Bldg. (same as the FAAC General Meeting).

All are invited to join us, share and discuss their images. We always have a good time, with lively discussion. Topics invited.

Mark your calendars! The Dark Sky Workshop 2008 is scheduled for Monday Sep 29th through Oct. 5th, at River Valley RV Camp, in Gladwin, MI. A flier and sign up sheet will be forthcoming.

Reminiscence



John Kirchoff

*Moonrise and Royal Palms
Collier-Seminole Park, Florida*

*Submitted by
John Kirchoff
February 2008*

Ford Amateur Astronomy Club
Star Stuff Newsletter
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For Your Astronomy and other Hobby Needs!

Supporting local Astronomy Events including

Beginners Nights with the FAAC

on July 12, August 9, and October 4