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Note: Member Profile should return next month.



Ancient Supernova Riddle, Solved

By Dr. Tony Phillips

Australopithecus squinted at the blue African sky. He had never seen a star in broad daylight before, but he could see one today. Was it dangerous? He stared for a long time, puzzled, but nothing happened, and after a while he strode across the savanna unconcerned.

Millions of years later, we know better.

That star was a supernova, one of many that exploded in our corner of the Milky Way around the Pliocene era of pre-humans. *Australopithecus* left no records; we know the explosions happened because their debris is still around. The Solar System and everything else within about 300 light-years is surrounded by supernova exhaust—a haze of million-degree gas that permeates all of local space.

Supernovas are dangerous things, and when one appears in the daytime sky, it is cause for alarm. How did Earth survive? Modern astronomers believe the

blasts were too far away (albeit not by much) to zap our planet with lethal amounts of radiation. Also, the sun's magnetic field has done a good job holding the hot gas at bay. In other words, we lucked out.

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Our Hobby

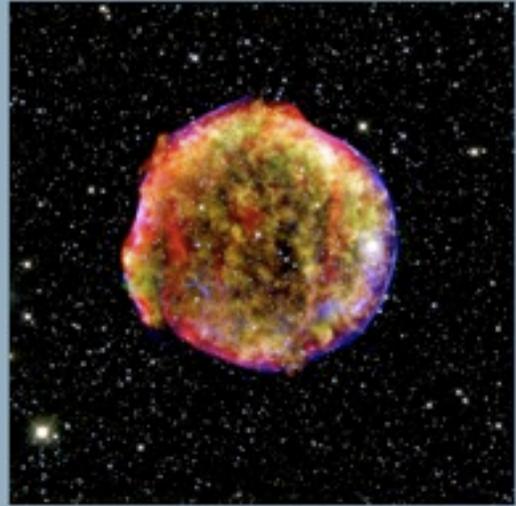
President's Corner

What a hobby. You wait for a dry day to go out with 2 or 3 friends. You're hoping the Michigan nebula stays away. You only want four hours of rain free time, is that too much to ask?

You arm yourself with provisions: Bug spray, a brewski or two, some light snacks. That should get through the session. You take all of the special equipment out of your car, you get set up, and you are off. You peruse the area and are determined to stay far away from the trees that invariably block your view but sometimes you get stuck behind a big pine or oak tree.

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Left-over cloud from the Tycho supernova, witnessed by Tycho Brahe and other astronomers over 400 years ago. This image combines infrared light captured by the Spitzer Space Telescope with x-rays captured by the Chandra X-ray Observatory, plus visible light from the Calar Alto Observatory in Spain.



Ancient Supernova Riddle, Solved

(continued from Page 1)

The debris from those old explosions has the compelling power of a train wreck; astronomers have trouble tearing their eyes away. Over the years, they've thoroughly surveyed the wreckage and therein found a mystery--clouds of hydrogen and helium apparently too fragile to have survived the blasts. One of them, whimsically called "the Local Fluff," is on the doorstep of the Solar System.

"The observed temperature and density of the Fluff do not provide enough pressure to resist the crushing action of the hot supernova gas around it," says astronomer Merav Opher of George Mason University. "It makes us wonder, how can such a cloud exist?"

NASA's Voyager spacecraft may have found the answer.

NASA's two Voyager probes have been racing out of the solar system for more than 30 years. They are now beyond the orbit of Pluto and on the verge of entering interstellar space. "The Voyagers are not actually inside the Local Fluff," explains Opher. "But they are getting close and can sense what the cloud is like as they approach it."

And the answer is....

"Magnetism," says Opher. "Voyager data show that the Fluff is strongly magnetized with a field strength between 4 and 5 microgauss. This magnetic field can provide the pressure required to resist destruction."

If fluffy clouds of hydrogen can survive a supernova blast, maybe it's not so surprising that we did, too. "Indeed, this is helping us understand how supernovas interact with their environment—and how destructive the blasts actually are," says Opher.

Maybe Australopithecus was on to something after all.

Opher's original research describing Voyager's discovery of the magnetic field in the Local Fluff may be found in *Nature*, 462, 1036-1038 (24 December 2009). The Space Place has a new Amazing Fact page about the Voyagers' Golden, with sample images and sounds of Earth. After all, just in case one of the Voyager's ever meets up with ET, we will want to introduce ourselves. Visit <http://spaceplace.nasa.gov/en/kids/voyager>.

STAR STUFF

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STAR STUFF is published eleven times each year by:

FORD AMATEUR ASTRONOMY CLUB
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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 Administration 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 a private observing site near Gregory Michigan and lake Erie Metro Park. 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 Members: \$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 subscriptions 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 pvideo@aol.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 Ford Astronomy Club Yahoo!Group. Messages photos, files, online discussions, and more! URL: groups.yahoo.com/group/FordAstronomyClub.

This months background photos courtesy of John Kirchhoff. Jupiter photo page 7; and moon background strip on page 1. See more of John's photos at:

<http://www.flickr.com/photos/33926475@N06/with/4311533997/>

Presidents Corner *(continued from Page 1)*

You scan the sky looking for that cratered white orb. You look for the red, white, and blue flags that were put there by men just doing their job. They say there is water there, but you don't really like to think about it. You observe the various mara and some of them just seem to draw you in as if they had magnets in the middle.

Occasionally, you might see a projectile create a fresh impact crater. The dust and sand fly into the air and then settles back to the ground. You weren't really wanting to see it, but that is just what happens sometimes. The rolling hills and jagged craters look very intimidating from your perspective, but you have to admire their beauty.

Your friends call you over to help them search for the object that they cannot find and after 5 or 10 minutes someone locates it and you move on. Everyone is focused on their own objectives and are enjoying the company. It can be frustrating, you want to get that perfect shot, but circumstances seem to conspire against you. You've used all of this equipment many times, but sometimes it feels like a foreign object in your hands.

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President's Corner

(continued)

Golf can be a very frustrating game!

Thanks,

Doug Bauer

DougBauer@Comcast.Net

Treasurer's Report

May 6, 2010

| | |
|----------------------------------|------------|
| Bank Accounts | |
| Checking | \$211.90 |
| Savings | 1,967.53 |
| TOTAL Bank Accounts | \$2,179.43 |
| Cash Account | |
| Cash | \$98 |
| TOTAL Cash Account | \$98 |
| Investment Accounts | |
| CD 1 | \$1,048.55 |
| CD 2 | \$1,082.22 |
| TOTAL Investment Accounts | \$2,130.77 |
| Asset Accounts | |
| Equipment | \$1,664.92 |
| Scholarship | \$378.80 |
| TOTAL Asset Accounts | \$2,043.72 |
| OVERALL TOTAL | \$6,451.92 |
| Memos | |
| GLAAC | \$2,596.64 |
| Total | |

Meeting Agenda - April 22nd

HFCC –Berry Auditorium - Admin. Services & Conference Center

For map see: http://www.hfcc.edu/contact/campus_maps.pdf

5:30 PM

Opening/Introduction/Member Observing

Main presentation:

Laser Pointers Gary Strumolo FAAC

Tech Talk:

iPad for Astronomy Greg Knekleian FAAC

Club Business/Secretary/Treasurer/ Equipment Reports

Club Projects/Committees/Member Support

•Detroit Science Center – Fun N Sun Solar Observing (June 21-25 10-3:00 PM)

•Starry, Starry Night – Time TBA. Location: Humbug Marsh Unit, Trenton, Michigan. Saturday, August 14th

- Astro-Imaging SIG
- Dark Sky Committee

FAAC General Meeting Minutes 4-22-2010

By Greg Knekleian

Attendance: 45+

The meeting was called to order by President Doug Bauer at 5:30 p.m.

Members enjoyed pizza while several new members and visitors introduced themselves and were welcomed.

The main presentation was given by Jeff Thrush who showed photos of his first observatory dome in Taylor and his current one. Detailed discussion about the construction of an automated observatory was given. During the discussion questions were asked as to the cost in constructing a fully automated observatory. Prices of these are very high for the average astronomer and it's evident that these types of observatories on on the high end of Amateur Astronomy. Jeff showed several programs that run an automated observatory and mentioned differences and discussed input he put into and designs he included in some automated software that is currently available for automated observatories.

Club Business

Secretary's Report – The secretaries report wasn't given at the meeting because our secretary wasn't present.

Treasurer's Report – There are no notes available for much of the meeting you're newsletter editor is noting the highlights of the meeting. **Management Managers Report** – Doug Bauer spoke to Diane Worth and all equipment is accounted for.

George Korody gave the tech talk about the Clear Sky clock. This is a program that

shows us a detailed weather forecast for many observing sites in North America. It's based on forecasts from the Canadian Weather Service. George also mentioned other internet sites he reviews to get good information about the weather. It was mentioned during the questions and answers that the Clear Sky Clock is only updated once a day and sometimes more accurate forecast updates can be received if the weather is changing a lot from other sites. George also suggested using Weather satellite information that shows up to the minute cloud patterns.

Island Lake Beginner's Night

By Greg Knekleian

Ten folks showed up for the beginner's night at Island Lake. I live closer to the Erie event, but felt I might as well head out to the Island Lake because it rained much of the day. It was still fun to meet members and watch them answer beginner questions. We had reflectors, an SCT and refractors early on at the event.

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Diane Worth looks at Venus

Astro Imaging SIG

Gordon Hansen

The March meeting was held at HFCC

All are invited to join us in the Astro Imaging SIG meetings, to share and discuss images, experiences, and techniques.

We always have a good time, with lively discussion, and sharing of valuable information.

Next meeting is June 10. The meeting room location – HFCC Admin. Services and Conference Center (same building), Berry Amphitheater Auditorium.

Topics invited. Pizza served.

FAAC Events 2010

Kevin Medon and Lori Poremsky

May 24 Hector J Robinson Observatory Open at 9pm, Lincoln Park Michigan

May 25 Hector J Robinson Observatory Open at 9pm, Lincoln Park Michigan

June 19 Island Lake and Lake Erie beginners night.

Background Jupiter - courtesy of John Kirchoff

One FAAC members blog

<http://hjobservatory.blogspot.com/>

A few updates on the observatory, quick articles and photos. I'll try to improve my writing on this blog. Also, I try to keep daily updates on this blog.

Items For Sale

Meade Lightbridge Deluxe 12" – F/5, 1524mm focal length. Purchased new last year. Perfect condition mechanically, optically and cosmetically. Big, clear deep sky views. Built-in battery powered cooling fan, two-speed Crayford focuser (1.25 / 2-inch). Easy to transport, set up collimate and use - smooth as silk. Upgraded with Bob's knobs and heavier collimation springs. Includes shroud, cover, Telrad and secondary mirror heater. Over \$1000 invested, will sell for \$650.

Contact John Johnson at jjohnsonpub@yahoo.com

or (248) 515-0014.



Hector J Robinson Observatory

by Greg Knekleian

For a short time (4 clear nights) we were locked out of the observatory as there were new locks installed on the door. I took advantage the down time to deploy my own telescopes and star gaze a bit.

Once the key situation was resolved I was able to open up the observatory. A couple of High School employees showed up and were able to look through the telescope one night while a couple of FAAC members were present. One of them mentioned his last time looking through a telescope was a long time ago when he was a lot younger. He mentioned the last time he looked was "through a big telescope some guy had in front of the Dearborn Public library." (The Telescope Man strikes again.)

Leo McMaster scheduled a boy scout troop to tour the observatory. The night they ended up coming out had very poor seeing conditions, but many were able to look at the moon through clouds and haze, and get a glimpse of Saturn. About 30 people turned out, students, scouts, Leo McMaster, the scout troop leader and many parents. Some people just walked up from the local area and checked out the event as well. People were in high spirits and really excited about the observatory.

The iPad was a huge hit with the scouts and others as well. I'll talk about this briefly during the May Tech Talk.



Art Parent looks at Saturn through his 10 inch f.6.3 Meade.



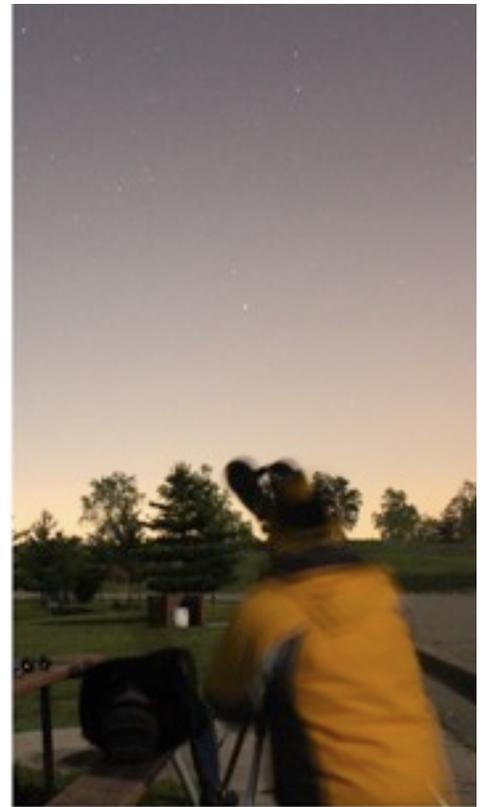
Yvonne Burton checks out the moon through a DS Meade F8 Newtonian.

Island Lake Beginner's Night (continued)

By 11:30PM many had left or were packing up as Ken Anderson and his sister Claire arrived. Ken explained they had another event that they had to be at, so they missed out on much of the viewing. Ken pulled out three pairs of binoculars and started stargazing. A couple of us stayed and checked out Ken's binoculars. I pulled out my old pair of K-Mart 10x50 binoculars as well. I probably should have taken a telescope along. It was fun to chat with other members and look through a few telescopes. The warm humid weather brought a waves of mosquitos. One FAAC member said, "there aren't as many mosquitos" as he expected. I was glad for the light bug turnout receiving 5 to 10 bites on my hands before I "borrowed" some of Art Parent's "Deepwood's Off".

I'm looking forward to the next beginners night. I hope to check out the Lake Erie site next time.

FAAC members greet visitors Jim Long, Yvonne Burton (a new member), and Sue at Island Lake's Mill Creek Pond. (above)



Ken Anderson using binoculars, while his sister Claire, lies back and enjoys a really wide field view without any binoculars at all.

Review Of Sky Voyager

by Greg Knekleian

Sky Voyager comes from Carina Software; a company that has been making astronomy related products since 1985. Voyager software has a long history, and Carina leveraged that experience in creating a really nice iPhone application.

This has nice charts and costs \$15 to \$20. The extra \$5 is purchases an expansion option. One complaint some have is the basic APP is the same size as the expanded app, 53 megabytes. If you're going to spend \$15 for an Application, you might as well spend the extra \$5 and get the entire product.

Sky Voyager has more detailed information about objects and more history in it than Star Walk or Star Map Pro. There are links in subjects about Constellations for example that contain photos and interesting details. It's almost like having Wikipedia in your pocket.. I can use this as a reference when answering questions about "what are we looking at?".

With the expansion pack some deep space objects are visible as you zoom in on the chart. This is a nice feature, the charting reminds me a little bit like the beauty of Star Walk, and the detail of Star Map combined. The chart updates the screen and responds to touch much slower than either of the other apps.

Skifi Box

Star Walk has no control of goto telescopes. Star Map Pro can control Equinox 6 which requires a Macintosh laptop attached to the goto scope for iPhone or iPad control. Sky Voyager goes one step further with a stand alone box that eliminates the need for a computer to act as a go between to the telescope mount.

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Expansion Pack shows graphics when zoomed in for some deep sky objects.



Scope Button Brings up Scope Control. (A future article will review the Skifi.) (Also: As this went to press a new version of Sky Voyager v1.61 came out. On the iPad the scope control view shows a smaller control box and more sky than shown above. I didn't have time to replace the 1.6 version iPhone image above.)



Tap on the object and get details (as shown above.)



Choosing the description button will provide more details.



Review Of Sky Voyager
(continued)

The SkiFi box is a WIFI stand alone device which plugs into the telescope mount via a connector cable and runs on AA batteries or an typical external battery adapter.

The SkiFi box costs \$130. This box will automatically setup a WIFI network. The box will interface with a large number of modern telescope goto mounts, Celestron, Meade, Losmandy, Takahashi and Vixen among others. Of course being one to want to review and have the thrill of wireless control of a goto mount I decided to purchase a SkiFi box and attach it to my small Celstron Nexstar 4SE goto mount to try it out. I planned on having a report of the SkiFi box, but some power glitch problems with the Celestron connector falling out caused the goto power to glitch at times. This with an external power supply. I know I should break out some AA batteries for the Celestron to do a full test of the SkyFi box. It will happen soon. This delay will cause a delay in my report on the SkyFi box.

WHAT ABOUT LOSMANDY CONTROL?

Because the software and controller also work for the Losmandy mounts, a simple attachment to the Hector J Robinson Gemini mount could provide remote control from the Sky Voyager software. This is one of my goals to have a chart to see visitors experience wirelessly control the observatory telescope. This of course will be the subject of future articles.

One of the challenges with all the gadgets is to not get too distracted with all of the options and take the time to just throw in an eyepiece and enjoy a visual view of the heavens.

SkyVoyager v1.6

for iPhone,
iPad Touch,

- iPad : \$15, \$20 deluxe
- SkyFi box : \$130



Image under link in Sky Voyager details on the Christmas Tree or Cone Nebula.

**Ford Amateur Astronomy Club
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