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Note: Member Profile should return next month.



Black Holes No Joke

By Dr. Tony Phillips

Kip Thorne: Why was the black hole hungry?

Stephen Hawking: It had a light breakfast!

Black hole humor—you gotta love it. Unless you're an astronomer, that is. Black holes are among the most mysterious and influential objects in the cosmos, yet astronomers cannot see into them, frustrating their attempts to make progress in fields ranging from extreme gravity to cosmic evolution.

How do you observe an object that eats light for breakfast?

"Black holes are creatures of gravity," says physicist Marco Cavaglia of the University of Mississippi. "So we have to use gravitational waves to explore them."

Enter LIGO—the NSF-funded Laser Interferometer Gravitational-wave Observatory. According to Einstein's Theory of General Relativity, black holes and other massive objects can emit gravitational waves—ripples in the fabric of space-time that travel through the cosmos.

LIGO was founded in the 1990s with stations in Washington state and Louisiana to detect these waves as they pass by Earth.

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Astronomy Questions

President's Corner

One of the interesting things about having hobbies is that everyone who knows you believes that you are an expert on your hobby. Astronomy is no exception. I am sure that you have had the same experience. I can't count the number of times that I have had someone say, "Last night I saw a really bright star in the west, it was so bright at first I thought it was an airplane." Generally they have seen Venus, but sometimes it was another planet or a bright star or it was an airplane. Depending on the last time I looked at the sky, which can be a long time in Michigan, I may or may not know what they may have seen.

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Laser Interferometer Gravitational-wave Observatory in Livingston, Louisiana. Each of the two arms is 4 kilometers long. LIGO has another such observatory in Hanford, Washington.



Black Holes, No Joke

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"The principle is simple," says Cavaglia, a member of the LIGO team. "Each LIGO detector is an L-shaped ultra-high vacuum system with arms four kilometers long. We use lasers to precisely measure changes in the length of the arms, which stretch or contract when a gravitational wave passes by."

Just one problem: Gravitational waves are so weak, they change the length of each detector by just 0.001 times the width of a proton! "It is a difficult measurement," allows Cavaglia.

Seismic activity, thunderstorms, ocean waves, even a truck driving by the observatory can overwhelm the effect of a genuine gravitational wave. Figuring out how to isolate LIGO from so much terrestrial noise has been a major undertaking, but after years of work the LIGO team has done it. Since 2006, LIGO has been ready to detect gravitational waves coming from spinning black holes, supernovas, and colliding neutron stars anywhere within about 30 million light years of Earth.

So far the results are ... nil. Researchers working at dozens of collaborating institutions have yet to report a definite detection.

Does this mean Einstein was wrong? Cavaglia doesn't think so. "Einstein was probably right, as usual," he says. "We just need more sensitivity. Right now LIGO can only detect events in our little corner of the Universe. To succeed, LIGO needs to expand its range."

So, later this year LIGO will be shut down so researchers can begin work on Advanced LIGO—a next generation detector 10 times more sensitive than its predecessor. "We'll be monitoring a volume of space a thousand times greater than before," says Cavaglia. "This will transform LIGO into a real observational tool."

When Advanced LIGO is completed in 2014 or so, the inner workings of black holes could finally be revealed. The punchline may yet make astronomers smile.

Find out more about LIGO at <http://www.ligo.caltech.edu/>. The Space Place has a LIGO explanation for kids (of all ages) at <http://spaceplace.nasa.gov/en/kids/ligo>, where you can "hear" a star and a black hole colliding!

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

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 month's 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)*

One time, I took my brother-in-law to the Detroit Science Center for a planetarium show. John Schroer was doing the show. Before the show started, he introduced me as the president of the Ford Amateur Astronomy Club. During the show, when going over what is up in the sky, John asked me, "What is the bright star that is out in the west?" I responded with Jupiter, because the last time I had looked (a couple of months before) it was Jupiter. The lady behind me yelled out, "Venus!" Oops!

An elderly woman that I know was discussing the large asteroid that was 2 miles long and almost hit the earth (it passed relatively close to the earth). She asked if I had seen it. When I said, "No", she said she saw it pass over her home, "It looked like a school bus flying through the sky!" She was serious and wondered how I could have missed it.

Of course, I get the annual August deluge of e-mails about Mars being the closest to the Earth, appearing to be the size of the Moon. At first I responded with a note explaining that this was not correct, it never looks the size of the moon,... After the e-mail made its reappearance the next several years, I eventually saved my response and now cut and paste it into the replies every year.

It is pretty amazing that some of my friends actually read about astronomy and send me questions about specific articles they have read. Many times it is something I knew nothing about. So they help keep me current.

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President's Corner

(continued)

Then there are the debates on whether intelligent life exists somewhere other than the Earth. After they talk to me for a while some question whether there is intelligent life here.

Of course, when you are out during public star parties and showing someone a specific deep sky object, they invariably ask, "How far away is that?" I personally am terrible about memorizing distances to various objects. Heck, I even use a GPS on Earth. Thankfully, my iTouch astronomy software lists the distances so I can look it up. Then you have to explain the lightyear, which usually convinces people that golf is a better hobby.

Last week at the golf course, one of guys I golf with told me he was biting into a cherry while sitting in his cart and the cherry spurted juice everywhere. When he looked at the score card, here is what he saw:



A perfect image of the Big Dipper on his score card! At least I didn't have to tell him how far away it was.

Keep those questions coming!

Doug Bauer

DougBauer@Comcast.Net

Lake Erie Beginner Night

by Greg Knekleian



*Damien & Luke pause from lunar viewing.
(Iphone 3gs photo)*

Lake Erie beginners night was my destination Saturday June 19th. Do to various errands I arrived late at the Three Hermanos Mexican restaurant. Gordon Hansen and Dennis Salliotte and I chatted briefly about large dobbs, binoscopes and then we headed to the metro park.

The three of us arrived at the nature center. Dennis and Gordon setup for solar viewing and I grabbed my telescopes and aimed them at the moon for a little daytime viewing. Early sky conditions were partly cloudy with breaks and clearing as nightfall approached. Later Dan Barriball showed up with the club scope, so we had four FAAC members at the Erie event.

(Story Continued on page 13)

Treasurer's Report June 9, 2010

By Gordon Hansen

Bank Accounts	
Checking	\$605.90
Savings	1,782.13
TOTAL Bank Accounts	\$2,388.03
Cash Account	
Cash	\$96.39
TOTAL Cash Account	\$96.39
Investment Accounts	
CD 1	\$1,048.55
CD 2	\$1,082.22
TOTAL Investment Accounts	\$2,130.77
Asset Accounts	
Equipment	\$1,708.92
Scholarship	\$401.80
TOTAL Asset Accounts	\$2,110.72
OVERALL TOTAL	\$6,725.91
Memos	
GLAAC	\$2,596.64

Meeting Agenda - June 24th

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:

Dark

Matter

David Wright FAAC

Tech Talk:

FAAC Yahoo Group Features &

Links

Ben Cline

FAAC

Club Business/Secretary/Treasurer/ Equipment Report

- FAAC Multi-Club Picnic at Island Lake - Sat. August 7 - 5:00 PM

- Outreach Solar Observing - Detroit Children's Museum - Sat/Sun June 26/27

- * Starry, Starry Night - Time TBA.

Location: Humbug Marsh Unit, Trenton, Michigan. Saturday, August 14th

- Astro-Imaging SIG
- Dark Sky Committee



Left, FAAC club loaner scope at Lake Erie Metro Park.

Right "Luc" the captive Eagle at Lake Erie Metro Park.
(photos from Canon t1i)

(Story continues on page 13)



2009-2010 INCOME STATEMENT

Name of Club: Ford Amateur Astronomy Club

Name of Treasurer: Gordon Hansen

Email Address : GHHANSEN@COMCAST.NET

Phone Number : 734 675-6137

Number Of Members:

5/1/08		Beginning Balance				\$8,679.00
	INCOME					
	Dues				\$1,823.00	
	Donations - Scholarship Fund				\$219.75	
	Donations - Equipment Fund				\$639.97	
	Banquet				\$1,500.00	
	Sales of books, calendars, & apparel				\$2,281.50	
	2010 Swap Meet				\$1,340.00	
	GLAAC Revenue				\$1,979.70	
	Account (e.g. DFCU) Dividend				\$28.50	
	Lincoln Parks School's Observatory Donation				\$200.00	
		Total Income				\$10,012.42
	DISBURSEMENTS					
	Administrative expenses				\$1,468.19	
	Scholarship Donation				\$600.00	
	Equipment Purchases				\$133.22	
	Banquet				\$1,600.65	
	Cost of books, calendars, & apparel				\$913.75	
	2010 Swap Meet				\$475.83	
	GLAAC Expenses				\$2,088.90	
	Meeting expenses				\$1,230.00	
	Star Stuff Newsletter				\$574.37	
	Lincoln Park School's Observatory				\$500.00	
						\$9,584.91
4/30/09	Ending Balance					\$9,106.51

FAAC General Meeting Minutes 5-27-2010

By Lori Poremsky / Kevin Medon

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

Members & guests introduced themselves as they enjoyed pizza & pop.

Several members spoke about their recent observing experiences; Gordon Hansen talked about the Beginner's Night at Lake Erie Metro Park, and Art Parent reported on the Beginner's Night at Island Lake. Also, Art informed the members in attendance about a new viewing location that he has been working on for the Club. It's at the Crosswinds Marsh Preserve in Sumpter Twp., which is part of the Wayne Co. park system. More information on this venue will be forth coming on the clubs' Yahoo! site.

The Main Presentation, on laser pointers, entitled "Light, Lasers & Lunacy" was given by Gary Strumolo. The Tech Talk - "iPad for Astronomy" was given by Greg Knekleian.

Club Business

Secretary's Report – Not Available

Treasurer's Report - See report in Star Stuff

Equipment Manager's Report - Diane Worth is following up a few loose ends; otherwise, all equipment accounted for. One of the members is utilizing the 6 inch club scope, which is a good thing.

Projects/Committees/Events

The Club will be providing solar observing activities at the Detroit Science Center on Wednesday, June 23rd, and at the grand re-

opening of the Detroit Children's Museum on June 26th & 27th. See the calendar of events on the Yahoo! site for more information.

The 2nd annual FAAC multi-club picnic will be held at Island Lake on Saturday, August 7th. Check Club Yahoo! site for more information.

Dark Sky Committee - Frank Ancona informed the members of 3 new State approved dark-sky sites - these are existing State Parks in East Tawas, Oscoda and Pottersville. They join Lake Hudson in Clayton. (Editor Note: Will new energy efficient lighting kill off Astronomy viewiing?) *One disturbing bit of technical news that Astronomers may want to consider addressing is the development some newer lighting technology that is being marketed and sold for public lighting which is LED based lighting. This light affects the blue spectrum and there is really no way to create a filter to filter this out for "bright sky" observing.*

John Schroer advised the members that if you're a member of the Astronomical League, that your dues are due next month. Please bring your money (\$7.50) to next month's meeting.

Mohamed Mroue showed us the pamphlet he designed for our Beginner's Nights. A very professional looking piece!

After open discussion, Doug closed the meeting. Following the meeting, an episode of our Clubs' cable TV show - 'Astronomy for Every One' was shown.

Astro Imaging SIG

Gordon Hansen

The June 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 July 8. 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

June 24 - FAAC General Meeting

June 26, 27 - Solar Observing at Detroit Children's Museum 11am - 4PM

6134 2nd Avenue, Detroit

July 1 - 4 - Tahquamenon Falls Star Party (806) 492-3415 more info.

July 17 - Beginner's night Island Lake, and Lake Erie Metropark

August 7, 2010 - Multi Club Picnic Island Lake

Background Jupiter - courtesy of John Kirchhoff

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.

MEADE Telescope and Tripod 6 years old - in excellent shape LXD 75 - Series Schmidt - Cassegrain 8" f/10 SC-8AT (Super Coated, Autostar Guided) - Focal Length 2000 mm Telescope weight = 24 lbs - with MEADE EMC Super Multi-Coatings and with optional Ultra-High Transmission Coating Tripod weight = 45 lbs - Die cast Aluminum German-Type Equatorial Mount with Variable-Height Field Adjustments Autostar Controller guides to 30,223 objects

Includes a Sun Filter, Overnight Protective Cover, Transportation Containers. Contact phone no. 248-851-5053, e-mail robertboswell@comcast.net

Hector J Robinson Observatory

by Greg Knekleian

Observing continues at the observatory with several dozens of new orientation students being shown the sun by Leo McMaster.

We had a few nights (as of this writing where the observatory was open and some FAAC members visited.) Leo McMaster will be teaching in high school next year and we hope to find additional interest from the high school students as well as interest from a middle school teacher keeping the middle school students involved as well.

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Hector J Robinson Observatory (continued)

A 25mm Plossl Celestron eyepiece has been added to the observatories kit and I rediscovered and tested a polarizing filter fortunately before looking to buy one.

A little bit of minor adjustments have been made at the observatory, I'm going to keep this a secret until the core team come out and see the place. There should be more floor space in there now (enough said.)

Jon Blum was one of the FAAC members who visited the observatory over the last month. I took a still of him looking through the telescope, low light photos present a challenge of course to stand still while the shutter is open (it was a 10 second exposure.)

It Is Good To Be A Member Of FAAC

By Jon Blum

One of the many great things about belonging to the Ford club is getting to know members who take the time to help each other with our problems. This began 8 years ago when I received a telescope as a retirement gift and couldn't figure out how to use it until I went to my first Beginners Night at Island Lake and had some kind FAAC member teach me. (I wish I knew who that was.) It has continued every year since then, with many examples, such as Jim Frisbie helping me with my battery problems, Bob MacFarland teaching me to find objects using a Telrad without go-to, and the following most recent story.



Hector J Robinson Observatory reflected in a visiting 1998 Ford Nascar F150. (Sony HD cam photo)



Jon Blum looking at an M object through the refractor at the Hector J Robinson Observatory. (Canon t1i)

At my gadgets talk at a FAAC meeting last year, I reported about Orion's "Illuminated Centering Eyepiece." This is a 20mm eyepiece with cross hairs, to use for centering alignment stars on go-to telescopes. It is available for \$100 on the Orion website at telescope.com. In my report, I told our club that the brightness of the illuminated cross-hairs is much too bright, even when turned down to its lowest setting. It is so bright that you sometimes cannot see the star you are trying to center. Other Orion customers have reported the same problem, both in the reviews on their website and in calls to their tech support (which they admitted to me when I called tech support to complain).

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It Is Good To Be A Member Of FAAC (continued)

FAAC member Ben Cline found a solution to my problem and emailed me to tell me about it. It is the Rigel PulsGuide Illuminator. This is a light that replaces the light that comes with that Orion eyepiece. The Rigel light is not too bright like the Orion light is. It sells for \$40 at flashlightsunlimited.com. I bought the Rigel light from that website. I tried it in my Orion Illuminated Centering Eyepiece. It works great. No more problem with cross-hairs that are too bright or that obliterate the alignment stars.

Ben Cline solved this illuminated eyepiece problem for me, and numerous other FAAC members continue to answer my many questions.

Yes, it's good to be a member of FAAC.

IPad Updates, AT&T changes 3g Plan

by Greg Knekleian

Almost as soon as anyone finishes writing on the iPad 3g, a change can occur. Things happen fast with technology.

NASA free 3D Sun app has been updated for the iPad. It's visually stunning with high resolution stills and video.

ORION VERSION OF CARINA SOFTWARE

Orion announced another charting application, it's a modified version of Sky Voyager from Carina Software. In the future it's supposed to have exclusive features for the Orion version of the App. This application will also have a version of the SkyFi Box marketed under the Orion name.

The Orion branded version will have about 350,000 objects, costs \$20 and the wifi box option will cost \$150 from Orion. I'm not saying it's a bad deal, but currently the Sky Voyager software has more features and a less expensive SkyFi box which costs \$20 less. Orion customers might not look or know about the Carina version and purchase the name brand version of the software. Carina is the better deal right now.

AT&T changes iPad 3g Rate plans

AT&T announced a "new price" plan for 3G users. This affects newer users (not those who were early adapters who have the unlimited service and choose to keep renewing it.)

AT&T decided to limit access to 2 gigs upload and download per month. I used my iPad 3g a lot and my 3g usage for the first month was pretty high. I used 2.3 gigs downloading and 350 megs uploading in the first month. I think most users can get away with using less than 2 gigs a month.

The new plan is \$25 month for 2 gigs and options to buy more if you need it.

APPLE 4G iPhone - but can you use it?

A 4g phone is being released that has almost no advantage for astronomy apps over the 3gs. There's a gyro and higher resolution screen, which likely won't aid astronomy software much. A new camera. The most exciting news is video features and other non-astronomy related features. If I get one it would likely be for the video shooting and editing convenience. For those who must have the latest and greatest, 720P HD video and a \$5 iMovie app to edit movies on the iPhone might be the compelling feature. Imagine shooting and editing a "Cable Show" with your iPhone 4g phone? Sounds like an interesting feature.

FAAC Multi-Club Picnic

When:

Saturday, August 7, 2010

5:00 PM - late

Where:

Island Lake Recreation Area – Spring Mill Pond

Who:

All AAC, Oakland, Seven Ponds, Lowbrows, and Warren Astronomy Club members

What:

All club members and their families

Bring a dish to pass

No Alcohol (it is a State Park)

Club will provide:

- **Hamburgers, Hotdogs, Veggie Burgers and Condiments**
- **Pop/Water**
- **Plates, Napkins, Utensils**
- **Mini-observing contest (if it is clear)**

A State Park permit will be needed to get into the park, if you don't have one you can purchase a day permit at the gate.

Charting App Shootout

by Greg Knekleian

Comparing the three charting applications. StarMap Pro, Sky Voyager and Star Walk can be difficult. All are fine programs.

Ironically the cheapest of the three has the best graphics for daytime viewing and the wow factor. When showing others an Astronomy application on the iPhone or iPad, I almost always fire up the Star Walk program which only costs \$4 .

I've never met a person yet, who wasn't impressed by star chart programs on the iPad. They almost always state, "wow" when they see it, obviously impressed.

Star Walk is adequate for daytime viewing, and also has the southern hemisphere visible by default, for "through the earth" viewing. This feature is also interesting for many. One of Ken Anderson's daughters during the outreach at the Detroit Science Center recently test drove the Star Walk Application for 10 to 15 minutes. She liked the feature that allowed the viewing of constellations in the Southern Hemisphere. I realized most astronomers in the US don't have charts of southern constellations for the southern hemisphere.

Star Walk also has a really nice time slider and that interface transfers well to the Solar Walk application which is created by the same company. A clean and easy interface and a good "painted" background that shows the wonders of the milky way.

If I'm firing up a charting app in the field, it's almost always StarMap Pro. I prefer charts like those in Sky And Telescope magazine. StarMap Pro has the closest look to Sky And Telescope sky charts. Of course since it's computer based, StarMap Pro not only offers 2.5 million objects, but has zooming capabilities as well.

For observing and looking at stars in the eyepiece and wondering what you can see and how the orientation should match your eyepiece view, StarMap Pro is the software for that type of reference. Having the definition of your telescopes and eyepieces in the application and being able to bring them up and view the star fields with an eyepiece representation, is just too compelling.

Sky Voyager, is very close to StarMap Pro and has a better display in some ways. Sky Voyager lacks the eyepiece view. If you're a visual observer and using older technology(not GOTO) and want to use setting circles and find the stars, StarMap Pro would be likely more appealing. If you have a goto mount and sync it to the stars and want to drive it, StarMap Pro can do this as well, but it requires a macintosh computer.

if you have a goto setup and want to control it with a box and not mess with a computer, but control it from your iphone or iPad device, then Sky Voyager was the only game in town. (Update: Orion has a clone of SkyVoyager software with reduced features.) This is due to the SkyFi box.

Sky Voyager also has a lot of information about the different stars and objects in an internal database. This doesn't require the internet, but it's enhanced if you have internet access. If you have an iphone with internet access and have the ability to surf in the field, you'll find you can just use the net for information, if you in need of that added info. Otherwise you may be stuck with what's in the program or some book you hauled along. Sky Voyager has more reference material than the other programs, so if you need that in answer questions that the public might ask, then Sky Voyager would be a nice charting program to have. Keep in mind, these are not as full featured as a desktop program. There are even cut down and cheaper versions

if you're on a really tight budget. But at \$20 for the professional versions, these programs are really a bargain. You can have 10 astronomy applications for about the cost of one nice application for your laptop.

The app world changes quickly on this platform. Features are added almost every couple of weeks for most applications. The iPhone or iPad applications are not only interesting to own, but constantly being improved.

Solar System Animation Apps

Some other applications include solar system charting applications. As I mentioned briefly in the presentation, kids and visitors at the Hector J Robinson observatory really enjoyed the Solar System Charting applications. These show the orbits of the planets and moons in the solar system. The ability to see a 3d like animation was a visual treat to the scouts present. Iphone and iPad Apps are interactive and more geared toward learning by doing, or an immersion experience. In the age of "random facts" and "lookups of bits of trivia", it's nice to see Astronomy software and hardware that can keep pace; presenting concepts in exciting, interactive ways.

The Apple App Store also has ratings and reviews for most apps. To date there are only a few lousy astronomy apps, most exceed my expectations.

Some recommended iPhone Apps

StarMap Pro, Star walk, Sky Voyager, *Moon Atlas**, Mars Atlas, Mercury Atlas, *Moon Globe**, Mars Globe, SkyOrb 3d, Solar Walk, Distant Suns Lite, Distant Suns.

Note *: Jon Blum, 'Some moon map apps need crater name design improvements for better field use on a small iphone screen.'



(left)

Gordon Hansen sets up two scopes for solar viewing.

(Below)

Dennis wonders if I'm going to damage my eyes looking for the reflection of the sun in his white light solar filter. (I'm letting the camera take the glare hit.)



Lake Erie Beginner Night

(continued from page 4)

We had about 10 visitors over the course of the night. These stopped by to view and asked a few questions. One visitor had a telescope, but he didn't bring it or have any questions about how to use it. He brought an astronomy book he owned and wanted to get our opinions on it's value. A three visitors seemed enthusiastic about astronomy and may visit our next FAAC general meeting.

We looked at the moon, the sun (with the proper filters of course), Venus and the Beehive (in one field of view, through a F4 4 inch scope), M52, the Ring Nebula, Saturn, the double double in Lyra and other objects. I was busy much of the time displaying the ipad and chatting about astronomy apps and some other apps as well. I showed some astronomy apps to the park staff member who had an iphone and didn't know about the Nasa 3D Sun Application.

The Nasa Application and Astronomy Picture of the Day received some interest on the Ipad, but the biggest exclamations were from some who saw Saturn for the first time through the SCT Celestron telescopes that were present. It's fun to see and hear the excitement of those first seeing Saturn.

About the only negative was the massive swarm of mosquitos. We finally grew tired of the insect attacks and started breaking down by at 11PM.

(Editor's story photos: this issue shot with Canon t1i, iPhone, or Sony HD Cam.)



Damien takes a look at the sun through Gordon's PST Hydrogen Alpha Solar Scope. **WARNING/CAUTION Consult with an experienced astronomer before observing the sun.**

Ford Amateur Astronomy Club
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