Current Astronomy

MAY
2005

RIVER BEND ASTRONOMY CLUB NEWSLETTER

Astronomy Day spirit: Thomas Young, age four, scans the skies. When the club hosted its fifth annual event on April 16, 2005, the public got the chance to see the solar system and beyond. PHOTO BY ERIC YOUNG

RIVER BEND ASTRONOMY CLUB

River Bend Astronomy Club *serves astronomy enthusiasts of the American Bottom region, the Mississippi River bluffs and beyond, fostering observation, education and a spirit of camaraderie.*

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Affiliated with the Astronomical League, dedicated to fostering astronomical education, providing incentives for astronomical observation and research, and assisting communication among amateur astronomical societies.
www.astroleague.org

Affiliated with the NASA Night Sky Network, a nationwide coalition of amateur astronomy clubs bringing the science, technology and inspiration of NASA's missions to the general public.
nightsky.jpl.nasa.gov

Current Astronomy CLUB NEWSLETTER

EDITOR	Eric Young younger@wustl.edu

Monthly Meeting

Saturday, May 7th, 2005 • 7:00 p.m.

Kronk Observatory

132 Jessica Drive, St. Jacob, IL 62281

Looked up lately?

Join River Bend Astronomy Club

Want to learn more about astronomy? The members of River Bend Astronomy Club invite you to join. You won't need expensive tools or special skills — just a passion for observing the natural world.

• Meetings offer learning, peeks through great telescopes and fun under the stars.

• You will receive the club newsletter, *Current Astronomy*, packed with news and photos.

• Get connected with our member-only web site and discussion group.

• Borrow from the club's multimedia library.

• And that's not all! Through club membership you also join the Astronomical League, with its special programs and a colorful quarterly newsletter to enrich your hobby.

We meet monthly, observe regularly, e-mail news and quips constantly, and generally have a good time. Won't you join us?

Name(s) _____

Address _____

City _____ State _____ Zip _____

Phone (Day)_____ (Evening)_____

Email address (to receive club news and information):

_____

Where did you hear of our club?

_____

How long have you been interested in astronomy? _____

Do you have optical equipment? ___ Telescope ___ Binoculars

Are you afraid of the dark? ___ Yes ___ No (just kidding)

I am submitting my application for:

_____ Adult membership(s) @ $20.00/year (18 years or older)

_____ Youth membership(s) @ $15.00/year (under 18)

I enclose a check for a total of $_____
made out to "Mike Veith, Treasurer, RBAC."

Signature _____

Date _____

River Bend Astronomy Club
c/o Gary Kronk, 132 Jessica Drive, St. Jacob, IL 62281
web: riverbendastro.org e-mail: riverbendastro@att.net

SEPTEMBER 04

Golden Day

Pleasant weather warms fifth annual Astronomy Day

BY ERIC YOUNG

PHOTOS BY GARY KRONK AND ERIC YOUNG

River Bend Astronomy Club hosted its fifth Astronomy Day on Saturday, April 16, 2005. RBAC members shared their favorite science as visitors attended two events in Edwardsville.

Computerized displays and a lineup of members' telescopes were offered at the Children's Museum from 10:00 a.m. to 2:00 p.m. A demonstration called "How to Cook a Comet" brewed a bubbling, fizzing spectacle. Then, children nibbled frosty comet snacks made from Oreos and ice cream.

Attendees also gobbled up free giveaways and drooled over the attendance prizes from our generous sponsors.

The Personal Solar Telescope, or PST, purchased last year by the club, had its first big outing. The stubby, golden device thrilled spectators with its dramatic views of solar flares, filaments and textured surface detail, while other filtered telescopes zeroed in on sunspots.

Members paused in the afternoon for a pot luck meal, laughter, astronomy talk and a game of washers.

In the evening we stargazed with the public at Shaw Sky Lab, Southern Illinois University Edwardsville. High, thin clouds made a faint sun dog, or parhelion, as the Sun retired beyond the horizon (above). Breaks in the clouds allowed viewing of the Moon, planets and bright deep-sky objects throughout the evening.

Not to be confused with the Statue of Liberty, Rita Breeden raises high a model of a comet.

Background: A sun dog (left) seen from the Shaw Sky Lab at SIUE.

GARY KRONK

Dennis Rippelmeyer offered the Sun through his Televue model TV102 102mm f8.6. His wood-rimmed solar filter was made by 43°S Astro in Christchurch, New Zealand.

Deb Wagner, right, aims her Orion refractor for the curious crowd. Deb's Mom, Donna Wagner, traveled furthest to attend our event — all the way from Heber Springs, Arkansas.

Hey, guys, the Sun's up there! Mark Brown, Byron Barker and Bill Breeden watch the telescope's shadow as they align it with the Sun.

A visitor brought some optics for Team Telescope to align.

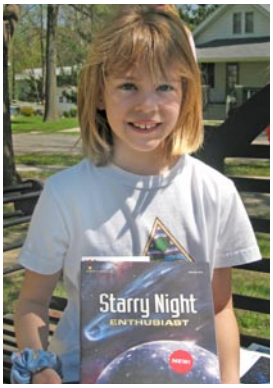
Astronomy Day coordinator Mark Brown thanks our sponsors for their generous donations to the event.

Corbin Jones won a Space Shuttle model kit.

The Hardin Optical telescope with its new owner, Cody Lane of Alton, IL.

Michael Ball, 10 years old, holds his AstroScan telescope with Mark Brown, left, and Gary Kronk.

Nathan Goff tries the Personal Solar Telescope (PST).



Hannah Ferree displays her Starry Night software.

Anna Claflin, age 4, of Edwardsville won the Apogee binoculars donated by Jace Perham, standing.

A cherub riding a turkey is not something you see every day.

When asked the identity of the kid in this picture, Jamie Goggin replied, "The little boy is me. The person at the telescope is my son, Ian."

Is he doing an impression of a Scottish bagpiper? Tom Foster, seated, club member and assistant professor of physics at Southern Illinois University Edwardsville, explains the mysteries of the cosmos to SIUE students Channing Peters, Sonya Froehling and Brad Bolt. All three students later won prizes.

"This has to be one of the best-tasting science projects I've ever had." Kathryn Silva, age 11, describing the edible ice cream comets

Brad Bolt hails the crowd as he wins the Meade ETX-90 telescope. Later, his smile said it all.

"The Sun is truly a very active orb. I was surprised to see how quickly (within minutes) the prominences came and went."

Dennis Rippelmeyer

Jeannette Schodroski, who represented the Planetary Society, looks through the PST with Bill Breeden.

At the Night Sky Network table, Terri Menz tells the scale of the universe.

Jeff Menz talks with Valerie Schobert.

Michael Ball tries his new AstroScan with the help of Eric Young.

ASTRONOMY DAY SPONSORS

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www.siue.edu

The Children's Museum
www.childrens-museum.net

Mike Veith

Two for one

Observing day and night on Astronomy Day

BY BILL BREEDEN

Saturday, April 16, 2005 was Astronomy Day. The weather during the daytime was absolutely spectacular with sunshine and temperatures in the mid 70s and no clouds. The club gathered at the Children's Museum in Edwardsville to begin the daytime portion of the event.

RBAC club members brought astronomy equipment, star charts, and give-away materials. My wife, Rita, and I brought our LX-90 8-inch Schmidt-Cassegrain telescope (SCT) and 10x50 binoculars. We set up the binoculars in the area designated for the "Tour of Telescopes." Mark Brown loaned me his 8-inch solar filter to fit on my telescope for safe observation of the Sun.

I set up my LX-90 in the area for safe solar observing along with Deb Wagner's refractor and Jeff Menz's 10-inch SCT. All three were fitted with safe solar filters. The club's Coronado Personal Solar Telescope (PST) was also available.

I observed the Sun through the PST, which is always a *huge* treat!! Solar prominences were clearly visible. I could see many sunspots and surface granulation. The last time I observed the Sun through the PST was in October 2004, so I was really ready to have another look. Many visitors also observed through the PST.

I returned to my 8-inch SCT to observe the Sun for the first time using my telescope. With Mark's solar filter attached, the Sun appears a whitish color, with sunspots visible. The Sun stands out well against a black background with this filter. Just for fun, I inserted a red filter on the end of my 32mm eyepiece, to "simulate" the view through the PST, since the PST view of the Sun is red-orange. Well, I was impressed! With the red filter, the Sun appears red-orange with slightly improved contrast. Of course, the view is still no real match for the PST, but it was really cool.

I had many visitors to my LX-90, so I provided general information about the Sun such as it's distance from us (93 million miles) and it's diameter (860,000 miles). Many people didn't realize the Sun is so big — almost a million miles wide! I got many "wows" from that!

Jeremy Russell views the Sun through Bill's scope.

After the event at the museum, we headed for a dining hall, graciously provided by Mike Veith, and some delicious sloppy joes for dinner. We also had about 3 hours to rest up and relax before the public star party at SIUE's Shaw Sky Lab. We watched the afternoon sky as some clouds began to move in. The weather remained very pleasant, so I got to play a few games of washers with the kids. From an astronomer's point of view, the clouds gave us a little something to worry about.

We headed for Shaw Sky Lab about 6:30 p.m., and the sky was about 30−40 percent cloud covered. The temperature remained perfect, so we set up our equipment for a look at bright objects. The Moon was at first-quarter phase, so dim objects would not be optimally visible anyway.

Rita settled in with her 10x50 binoculars and I set up my LX-90 and pointed it at the Moon. I inserted my new (!!!) Orion Expanse 20mm eyepiece and Moon filter and took a look. Wow! The entire first-quarter Moon fit into the field-of-view (FOV) at 100x. This eyepiece delivers a 66 degree apparent FOV: my first wide-angle eyepiece. This was fantastic. I compared the view with my 26mm eyepiece with it's 52 degree apparent FOV. Both eyepieces show the entire Moon with some black sky around it, but the Expanse 20mm eyepiece gives me more magnification while still showing the whole Moon. By this time, visitors to Shaw Sky Lab began showing up at my telescope, so I shared this view with several visitors.

Next, I pointed my telescope at Jupiter using my new Expanse eyepiece. The view was very bright and clear, and cloud bands were clearly visible at 100x. All four Galilean moons were visible as well. Several guests took a look at Jupiter and enjoyed the view.

I next moved to Saturn which is always a treat for guests. At 100x, the view was clear, but still quite small, so I cranked up the magnification to 200x by using my Barlow. At this power, Saturn's rings were very clear, and I could see the Cassini Division.

My favorite part of the evening was when a family asked me what all the eyepieces are for. I had my chance to explain magnification and field-of-view to a mom, dad, and two girls. I asked each person to look at Saturn using my 26mm eyepiece (77x). Then I inserted my 12.5mm eyepiece for a view at 154x. Everyone was impressed with the "closer" view of Saturn. Next came my 9.7mm eyepiece for a view at 206x. The kids were really excited about this view. So I asked them, "Which is better, higher power or lower power?" All answered, "higher." Now I had the chance to disprove this common misconception. I asked the girls if they would like a view of Saturn at 412x. They said "Wow! 412 power! That should be really great!" So, I added a 2x Barlow to the 9.7mm eyepiece for a view at 412x. As each person took a look, I noted how their excitement waned. So I asked "Which view was your favorite?" It was a toss-up between the view at 154x and 206x, and we went back and tried them both.

Everyone agreed that both views were good, so something in the range of 175x to 200x would be just right. We then inserted the Expanse 20mm eyepiece with the 2x Barlow for 200x, and everyone agreed that this view was the best.

I asked them, "Which is better, higher power or lower power?" All answered, "higher." Now I had the chance to disprove this common misconception...

I explained to everyone that the eyepiece and "power" that is perfect will vary with the object you are viewing, it's size on the sky, and the sky conditions. For some large galaxies and open clusters, lower power is much better. My telescope can go down to 50x with a 40mm eyepiece, which I have yet to buy. This is about as low as I can go with a focal length of 2000mm and an 8-inch aperture. I told them that some of the smaller scopes actually deliver a better view of large objects due to their ability to achieve very low powers such as 30x. Then, I sent them to other telescopes to experience the differences that aperture and focal lengths can make. This was the highlight of the evening!

Clouds continued to thicken and by 10:00 p.m. we began to pack up for the night. This was a very enjoyable day of astronomy, with good friends, good food, good fun, and many laughs. I'll always remember Astronomy Day 2005.

Read other observation reports by Bill Breeden at www.geocities.com/fomalhautnights

Telescopes and visitors gather at the Shaw Sky Lab of Southern Illinois University Edwardsville.

BY PATRICK L. BARRY

Asian tsunami seen from space

When JPL research scientist Michael Garay first heard the news that a tsunami had struck southern Asia, he felt the same shock and sadness over the tremendous loss of human life that most people certainly felt. Later, though, he began to wonder: were these waves big enough to see from space?

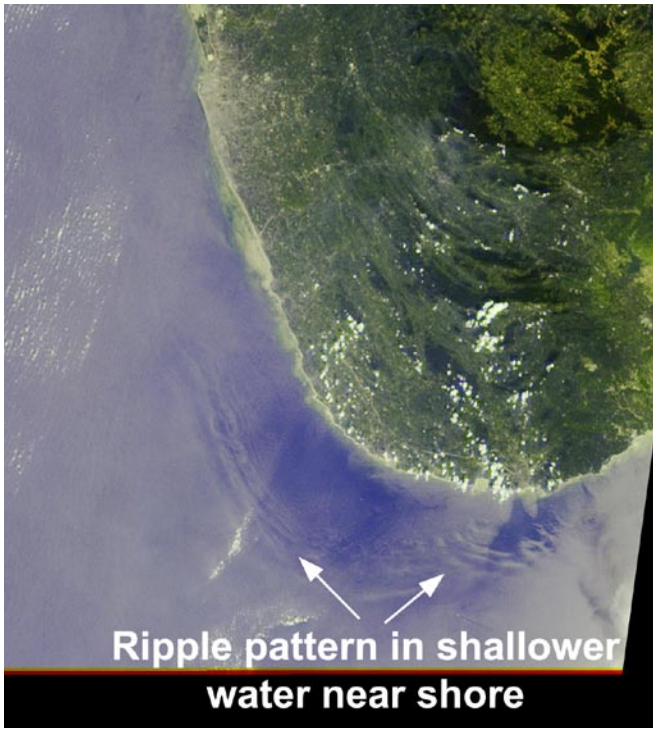
So he decided to check. At JPL, Garay analyzes data from MISR — the Multi-angle Imaging Spectro-Radiometer instrument aboard NASA's Terra satellite. He scoured MISR images from the day of the tsunami, looking for signs of the waves near the coasts of India, Sri Lanka, Indonesia, and Thailand.

Looking at an image of the southern tip of Sri Lanka taken by one of MISR's angled cameras, he spotted the distinct shape of waves made visible by the glint of reflected sunlight. They look a bit like normal waves, except for their scale: These waves were more than a kilometer wide!

Most satellites have cameras that point straight down. From that angle, waves are hard to see. But MISR is unique in having nine cameras, each viewing Earth at a different angle. "We could see the waves because MISR's forward-looking camera caught the reflected sunlight just right," Garay explains.

In another set of images, MISR's cameras caught the white foam of tsunami waves breaking off the coast of India. By looking at various angles as the Terra satellite passed over the area, MISR's cameras snapped seven shots of the breaking waves, each about a minute apart. This gave scientists a unique time-lapse view of the motion of the waves, providing valuable data such as the location, speed, and direction of the breaking waves.

Realizing the importance of the find, Garay contacted Vasily Titov at the National Oceanic and Atmospheric Administration's Pacific Marine Environmental Laboratory in Seattle, Washington. Titov is a tsunami expert who had made a computer simulation of the Asian tsunami.



This December 26, 2004, MISR image of the southern tip of Sri Lanka was taken several hours after the first tsunami wave hit the island.

"Because the Indian Ocean doesn't have a tsunami warning system, hardly any scientific measurements of the tsunami's propagation exist, making it hard for Dr. Titov to check his simulations against reality," Garay explains. "Our images provide some important data points to help make his simulations more accurate. By predicting where a tsunami will hit hardest, those simulations may someday help authorities issue more effective warnings next time a tsunami strikes."

Find out more about MISR and see the latest images at www-misr.jpl.nasa.gov/. Kids can read their own version of the MISR tsunami story at http://spaceplace.nasa.gov/en/kids/misr_tsunami. This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

The River's Edge

BY ERIC YOUNG

Machholz and other old friends

APRIL 9, 2005 For once it was actually clear, or mostly so. The gang gathered in the Kronk's backyard and hardly left their observing posts except for snacks and bathroom breaks.

WHERE IN THE WORLD IS... He's back from snorkeling the reefs off the coast of Guam. Bruce Kryfka also traveled to Japan and Hawaii, where he had too much light pollution to observe anything more than the beach surfers.

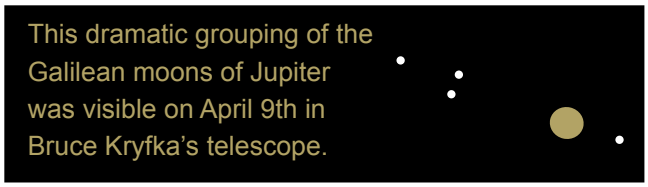
SEE IT? While driving to the meeting, Terri Menz spotted a sun dog in the sky. She rang up husband Jeff who was following in another vehicle. Without so much as a hello, Jeff answered, "I see it!"

BROCHURES That Menz gang have created a snappy new brochure for the club. The cover features Vanna White, George W. Bush and the Cookie Monster, so there's something for everyone. The brochures were distributed at Astronomy Day.

STILL JUICED Bill Breeden's been head over heels for astronomy for a whole year now — April 10th marked his one-year anniversary as a stargazer. Nowadays Bill enjoys licking his finger and poking it into the outlet of his PowerTank "Engine Starter" 12-volt D.C. mobile power station with spotlight. It's better than caffeine, says Bill.

OUTBACK Rich and Frankie Halasey set up their telescope at the far corner of the pool and kept their eyes on the sky most of the evening.

A partial eclipse took a bite out of the Sun on April 8th. Mark Brown shot this photo, which was broadcast during the 10:00 news on KSDK-TV.



This dramatic grouping of the Galilean moons of Jupiter was visible on April 9th in Bruce Kryfka's telescope.

WORLD WIDE For years the club web site has piggybacked on Gary Kronk's personal account. Finally, he's decided to remove this piggy from his back so he's asked the club to pick up the tab for an account with GoDaddy — about four bucks a month.

COMPOUNDING Mike Veith generously offered the use of his Masonic Temple for our Astro Day afternoon potluck. In order to use the Temple we had to learn a secret handshake and promise not to tell anyone our recipe for cole slaw.

LEGENDS Taylor, the daughter of Byron Barker, keeps reading up on her Greek mythology and enjoys observing as much as Dad.

VARMINTS The raccoons in Deb Wagner's backyard (a.k.a. squirrels on steroids) don't just raid the bird feeders — these wily 'coons swipe the whole feeder! Deb's been live-trapping them and releasing them in distant backyards when no one's home.

LONG VIEW Jamie Goggin recommends maps.google.com. Find your spot and then click on "satellite view." This is super-cool and very easy-to-use.

OLD FAVORITES Remember Comet Machholz (C/2004 Q2)? The group gathered around Jamie's big Dob for another look at this celestial interloper which thrilled us (briefly) late last year. The comet was circling the polestar near the tail of Draco.

BIG DAY KUDOS A million thanks to everyone who helped make Astronomy Day 2005 a success!

May 2005

April 2005

S	M	T	W	T	F	S
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

June 2005

S	M	T	W	T	F	S
29	30	31	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	1	2

Holidays | Moon Phases | RBAC | Space Mission | Observing | Trivia

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1 • Texas Star Party begins (Yeehaw)	2	3	4	5	6 • Eta Aquarids (early a.m.)	7 • RBAC meeting 8 p.m.
8 • Mother's Day • New Moon 3:45 a.m. • TSP ends	9	10	11	12	13	14 • Griffith Observatory 's 70th anniversary
15 • Mars close to Uranus (snicker)	16 • First quarter 3:57 a.m.	17	18	19	20	21 • Ceres passes 1' south of Delta Librae
22 • Discovery "Return to Flight" Launch	23 • Full Moon 3:18 p.m.	24 • Moon occults Antares (early a.m.)	25	26	27	28 • Frank Drake is 75
29	30 • Memorial Day • Last quarter 6:47 a.m.	31	1	2	3	4 • RBAC meeting 8 p.m.

CALENDAR BY ED CUNNIUS