

BACK BAY OBSERVER

The Official Newsletter of the Back Bay Amateur Astronomers
P.O. Box 9877, Virginia Beach, VA 23450-9877



EPHEMERALS april 2010

04/01/2010

BBAA Monthly Meeting
TCC - VB, Building JC-12
7:30 pm

04/02/2010

Skywatch
Northwest River Park

04/10/2010

Nightwatch
Chippokes State Park
Surrey, VA

04/15/2010

Science Fair
Green Run ES
Virginia Beach
6:30 pm

04/23/2010

Star Party
Mount Trashmore
Virginia Beach

04/24/2010

National Astronomy Day
Virginia Beach Central
Library
10:00 am

04/28/2010

Bayside Library
Astronomy
Virginia Beach
7:00 pm



Looking Up!

Busy comings & goings! George Reynolds and I were among the attendees at the James City County Library on Croaker Road in Williamsburg on March 19th. Their speaker was Dr Frank Summers, the curator for the exhibit "Visions of the Universe" sponsored by the Space Telescope Science Institute. (I hope I got all that right!) He gave an interesting talk entitled "The Day the Universe Changed". The main point of his talk was that most major changes in our understanding of the universe didn't happen in one day or because of one person but were the result of years of work by many people.

On the 24th George Reynolds made a presentation about the phases of the Moon at the monthly Bayside Astronomy event. There were clear skies for this for the first time in four months. Chuck Jagow, Ted Forte and George all set up their Dobs. I had my new monster 25x100 astrobinocs.

This past Friday night (26th), several of us attended Garden Stars at Norfolk Botanical Gardens. We had more members than guests! It was too cloudy to set up outside, but Matt McLaughlin, Neill Alford and Kevin Rasso set up scopes inside and explained the various types. Matt and Neill gave a nice presentation about what is currently visible in the night sky and why we see phases on Venus and Mercury. Kevin gave us a slide show of some of his impressive astrophotos. Great job, guys!

This just in from Sky & Telescope's Astro Alert of 3/27; Don Machholz of Colfax, CA, has spotted an 11th-magnitude comet low in the morning sky in the constellation Pegasus.

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Deadly Planets

Patrick L. Barry and Dr. Tony Phillips

About 900 light years from here is a rocky planet not much bigger than Earth. It goes around its star once every hundred days, a trifle fast, but not too different from a standard Earth-year. At least two and possibly three other planets circle the same star, forming a complete solar system.

Interested? Don't be. Going there would be the last thing you ever do.

The star is a pulsar, PSR 1257+12, the seething-hot core of a supernova that exploded millions of years ago. Its planets are bathed not in gentle, life-giving sunshine but instead a blistering torrent of X-rays and high-energy particles.

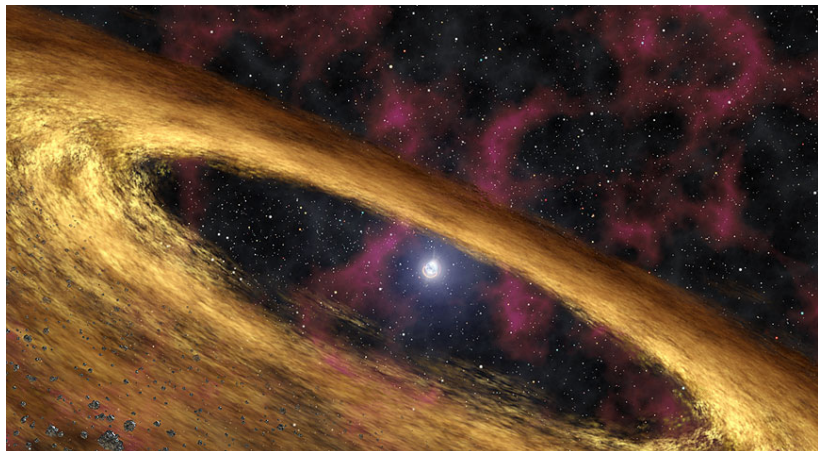
"It would be like trying to live next to Chernobyl," says Charles Beichman, a scientist at JPL and director of the Michelson Science Center at Caltech.

Our own Sun emits small amounts of pulsar-like X-rays and high energy particles, but the amount of such radiation coming from a pulsar is "orders of magnitude more," he says. Even for a planet orbiting as far out as the Earth, this radiation could blow away the planet's atmosphere, and even vaporize sand right off the planet's surface.

Astronomer Alex Wolszczan discovered planets around PSR 1257+12 in the 1990s using Puerto Rico's giant Arecibo radio telescope. At first, no one believed worlds could form around pulsars—it

was too bizarre. Supernovas were supposed to destroy planets, not create them. Where did these worlds come from?

NASA's Spitzer Space Telescope may have found the solution. In 2005, a group of astronomers led by Deepto Chakrabarty of MIT pointed the infrared telescope toward pulsar 4U 0142+61. Data revealed a disk of gas and dust surrounding the central star,



probably wreckage from the supernova. It was just the sort of disk that could coalesce to form planets!

As deadly as pulsar planets are, they might also be hauntingly beautiful. The vaporized matter rising from the planets' surfaces could be ionized by the incoming radiation, creating colorful auroras across the sky. And though the pulsar would only appear as a tiny dot in the sky (the pulsar itself is only 20-40 km across), it would be enshrouded in a hazy glow of light emitted by radiation particles as they curve in the pulsar's strong magnetic field.

Artist's concept of a pulsar and surrounding disk of rubble called a "fallback" disk, out of which new planets could form.

Terra Firma continued on page 5

The Back Bay Amateur Astronomer's OBSERVER

The BBAA Observer is published monthly; the monochrome version is mailed to members who do not have Internet access. Members who do have Internet access can acquire the full color version on the Internet at <http://www.backbayastro.org/newsletters/newsletter.shtml>.

Please submit articles and items of interest no later than the 15th of the month for the next month's edition. Please submit all items to: BBAAErica@yahoo.com or BBAA Observer, P.O. Box 9877, Virginia Beach, VA 23450-9877

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BBAA Meetings

The BBAA meet the first Thursday of every month except for July. While school is in session, we meet at the VA Beach TCC Campus. **The April meeting will take place at TCC VB in Building JC-12 at 7:30 pm.** Directions available at www.backbayastro.org.

BBAA Internet Links

BBAA Web Site

<http://www.backbayastro.org>

Yahoo! Group

<http://tech.groups.yahoo.com/group/backbayastro>

BBAA Observer Newsletter

www.backbayastro.org/observer/newsletter.shtml

Looking Up! Continued from page 1

He was using his 18½-inch reflector at 77x. This is his ninth comet discovery. See <http://www.skyandtelescope.com/resources/proamcollab/astroalert> for more info.

There are a lot of things on the calendar for April. Our meeting on the 1st will probably be past by time this newsletter gets out (My fault, again, I procrastinated on getting this column done.) Friday the 2nd is our monthly Skywatch; the weather looks to be good for this for a change.

April 10th is Yuri's Night at the Virginia Air and Space Center in Hampton. Go to www.yurihr.com for full information. This is a celebration of two major events: Yuri Gagarin becoming the first human to go into space, and the launch of the first space shuttle STS-1, both of which occurred on April 12 (1961 and 1981). This is a grown-ups event, 18 & up, since adult beverages are available. (What is a Marstini, anyway?) It was at last year's Yuri's Night that I had my first sight of the ISS going overhead. That was when I realized that my boyhood dream of becoming an astronaut was probably not going to happen.

April 15 brings us the Green Run Elementary Science Fair. If anyone is interested in participating, please contact Courtney Flonta.

Look for the Lyrids meteor shower peaking on the night of the 21st. This is followed closely by the Second Annual Mt. Trashmore Star Party on Friday the 23rd. This was a BIG event last year with over 1200 attendees. I'd like to see as many scopes as we can scare up for this one. We can have plenty of time to set up scopes in the late afternoon, well before the public arrives. Maybe I'll have time to get an alignment done before we're swamped. Hope for clear skies!

The next day is National Astronomy Day. We will be set up at the Virginia Beach Central Library. We can't set up in the lobby this year, but we can have a table or two outside and set up solar scopes and whatever static displays we have available.

The month rounds out with Bayside Astronomy again on the 28th. It's a full moon that night; I wonder what George will talk about?

Mark Gerlach

BBAA Meeting Minutes

March 4, 2010

The March meeting was called to order at 7:30 PM in the TCC planetarium, Virginia Beach campus, by president Mark Gerlach.

Those in attendance were Christina Anderson, Kenny Broun, Larry Channel, Bryan Condrey, Nick DePaulo, Stephen de Veer, Courtney Flonta, Tony Flonta, Mike Galvas, Mark Gerlach, Dave Hales, Chuck Jagow, Karen Jagow, Georgie June, Garry Mitchell, Bill Newman, John Norman, Bill Powers, George Reynolds, and "Bird" Taylor.

Reports

It was moved, seconded, and approved that the reading of the February meeting minutes be waived, since they are posted on the BBAA Web site, www.backbayastro.org.

Treasurer Chuck Jagow reported that as of the meeting date there is \$3228.07 in the Scholarship Fund and \$3805.28 in the General Fund, for a total of \$7033.35. Expenses the past month included renewing the club's liability insurance policy.

Scholarship chairman Ben Loyola reported that BBAA scholarship information has been sent to all the schools in the area, and the amount of the award is to be \$1000.

Vice President Courtney Flonta reported on upcoming outreach events. She also reported on the 1 March Fourth Grade Science Fair night at Deep Creek Elementary School. At least four members were there to represent BBAA with an indoor display and scopes outdoors. Students and parents enjoyed seeing the Double Cluster, Orion Nebula, Mars, and the Moon, among other sights. ALCOR Georgie June mentioned that Cliff Hedgepeth had earned the Galaxy

Observer/Local Galaxy Group award, and had his name in the quarterly Reflector newsletter of the Astronomical League. Cliff received applause "in absentia".

A welcome was given to visitors Christina Anderson, Dave Hales, and Stephen de Veer. Stephen joined the club at the meeting.

Old Business: Chuck Jagow followed up on the hosting of the VAAS conference. BBAA is now in the rotation, and will host the 2011 conference. A committee is to be assembled to begin planning for the event. John Norman reported that the YMCA's bid to build a youth center at Northwest River Park has been withdrawn.

New Business: President Mark Gerlach asked if the club had ever looked into incorporating. Ben Loyola replied that it was brought up a couple of years ago, but the leadership at that time elected not to pursue the matter. A discussion of the benefits of incorporation ensued, focusing on the question of liability. Chuck Jagow stated that we have a liability policy, but could not remember the exact coverage. [Secretary's note: See addendum below.]

Schedule: Skywatch is ON for tomorrow night, 3/5. Georgie will call the park to verify. Saturday, April 10 is Yuri's Night at the Virginia Air and Space Center, Friday, April 23 is Mount Trashmore stargazing, and Saturday, April 24 is National Astronomy Day. Anyone wanting to participate in Yuri's Night, contact Bird Taylor. Anyone wanting to participate in the Mount Trashmore event, contact Chuck Dibbs and give him your name, address, phone number, email, T-shirt size, and type of scope (if any).

President Mark Gerlach mentioned that the annual "Globe at Night" sky quality survey was being conducted 3-16 March. For more info, go to the Globe at Night

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Minutes, *continued*

Web site. Also, good sky maps/charts are available from the Hawaii Astronomical Society, www.hawastsoc.org. John Norman mentioned that a shortwave receiver tuned to 2.7 MHz can be used to listen to the Aurora Borealis. There have been sunspots now for 41 days, "crackling like popcorn" in the shortwave band.

After the business session, Ken Broun gave the group a sky show in the planetarium. He showed how he can make the constellations appear more "normal-sized" on the planetarium dome. He showed us some of the tricks he can do with the planetarium projector. He then presented the prepared show, "The Origin of Life", showing how scientists think our solar system was formed.

The meeting was adjourned about 9:00 PM.

ADDENDUM: The BBAA club general liability insurance policy renewal was received in the mail. The specifics were sent to the BBAA officers.

Respectfully Submitted,
George Reynolds
Secretary

Terra Firma, *continued*

Wasted beauty? Maybe. Beichman points out the positive: "It's an awful place to try and form planets, but if you can do it there, you can do it anywhere."

Find more news and images from Spitzer at <http://www.spitzer.caltech.edu/>. In addition, The Space Place Web site features several games related to Spitzer and infrared astronomy, as well as a storybook about a girl who dreamed of finding another Earth. Go to <http://tiny.cc/lucy208>.

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

Question:

How many amateur astronomers does it take to change a lightbulb?

Answer:

See the FAQs.



"What sort of light bulb should I buy?"

"Should I start with a candle?"

"Where should I buy my light bulb?"

"Where NOT to buy a light bulb."

"What type of light bulb to avoid?"

"What will I be able to see with my bulb?"

"How do I deal with telescope-pollution?"

"Can I buy a bulb for a friend?"

"Can I use my bulb in the daytime?"



Welcome New Member
Stephen de Veer

OBSERVERS' CORNER

April Planetaries

Mark Ost

Just like last month, only three planetary nebulae reach their best position of the year in April. With the arrival of spring, an astronomer's fancy should turn to galaxies. That doesn't mean, however, that PNe are absent from the April sky. There are 63 objects from the Planetary Nebula Club above the horizon on the night of our April Skywatch, and 89 on the night of our Mt. Trashmore Star Party. Plenty to keep you busy, but in keeping with the premise that we will observe the objects only at their very best, the three you want to check off this month are offered here.

The nickname "Eight Burst Nebula" was applied to NGC 3132 in Vela due to the multiple outbursts of its central star described in a 1940 paper by Harlow Shapley and J.S. Paraskevopoulos. More inviting is its other moniker: "The Southern Ring Nebula". It's unfortunate for us here in Tidewater that this object is at such low elevation, because it is an

Planetaries for April

Eight Burst	NGC 3132	Vel	10h07m25.2s	-40°29'09"
Ghost of Jupiter	NGC 3242	Hya	10h25m13.5s	-18°41'33"
Owl Nebula	M 97	UMa	11h15m20.9s	+54°58'12"

extremely interesting and intricate object; multiple layers of gaseous shells that evidence the sporadic upheavals of its formation, are layered upon a binary star system to create a marvelous telescopic target. NGC 3132 reaches its highest altitude at the end of April, but with full moon falling on the 28th this year, you might have to settle for an earlier attempt. It is a bright disk with an obvious ring structure, elongated a bit SE-NW and has a faint outer shell. Most observers report a bright central star, but it is the much fainter (about 16th magnitude) companion that is responsible for the nebula. Filters help a good deal, especially the OIII filter. Add this one to your observing list if you are going to the DelMarVa Stargaze - it will be best placed about 8:30 P.M. those evenings.

NGC 3242 is best known as the Ghost of Jupiter. David Knisley lists William Tyler Olcott as the source of that popular nickname. It has others; The CBS Eye or Just The Eye, and the Diamond, for Instance. NGC 3242 lies in Hydra, in fact it is arguably that huge constellation's best deep sky object. It was discovered

by William Herschel in 1785. It is a favorite of observers because it can stand up to outrageous magnifications and shows more and more structure to larger and larger scopes. Attack Jupiter's Ghost on a night of good seeing and pump up that power and you'll become hooked on this planetary too. Filters can enhance some of the detail, but are not required to see the object, or even to see some of the intricate inner structure. It has some color, you'll see pale blue or a faint green. Try for the central star, I wonder how large a scope it takes to see it? Even in tiny scopes, NGC 3242 is a bright oval that is visible from an urban backyard.

Our understanding of planetary nebulae is changing from year to year. Theories of how they achieve the shapes and structures we see in the eyepiece keep evolving. What is becoming more and more obvious is the role of binary stars in the creation of the more intricate morphologies they exhibit. The "Binary Hypothesis" of

planetary nebula formation is a hot subject today. Models suggest that PNe with internal bubbles like NGC 3587 might require a very wide binary star - where the period of the secondary's orbit is longer than

the lifetime of the planetary nebula. You know NGC 3587 better as M97 or "The Owl Nebula" in Ursa Major. And whether its two dark bubbles are due to the action of a binary star system or not, they are surely the object's most notable features. They form the eyes that make this puff ball remind us of an owl's face. One of just four planetaries on Messier's famous list, it was actually discovered by Pierre Mechain. In poor skies you might need a filter like the OIII to catch site of the Owl, but I've detected it easily enough in 8-inch aperture, under city lights, without one. It's a matter of knowing what to expect. From our latitude, the Owl s circumpolar and is visible all year, but its best position is attained on April 17 and this year occurs in a moonless sky. No excuses will be accepted for not taking a peek, even if you are concentrating on galaxies this spring - it lies just one telescope field from the fine edge-on galaxy M108 just outside of the dipper's bowl.

Good hunting!



P.S. Please don't miss the June issue of Sky & Telescope Magazine. You might recognize the author of the article on observing planetary nebulae!

What is the “RASC Observer’s Handbook”?

Book Review by George Reynolds

Every year you may see announcements to order the latest version of the annual “RASC Observer’s Handbook”, and you may wonder, “What’s that?” Or, “What’s “RASC”?” Here are some answers.

RASC stands for the Royal Astronomical Society of Canada, which has been in existence for well over a hundred years, and for 102 years they have been publishing the Observer’s Handbook. The current Editor is Patrick Kelly, but the history of the handbook goes way back to 1907, when C. A. Chant, professor of Astronomy at the University of Toronto, created a small publication he called The Canadian Astronomical Handbook for 1907. A couple of years later The RASC Council decided to make it an annual publication, changing the name to the Observer’s Handbook. That little book has become a “must-read” tool for thousands of amateur astronomers around the world.

As one reviewer wrote, “The Observer’s Handbook is the single most useful publication for the observational astronomer. Its combination of authoritative data, informative diagrams, and concise text is unique. Anyone in astronomy, beginner or expert, amateur or professional, student or teacher, will find the Observer’s Handbook indispensable.” – Roy Bishop, Halifax, Nova Scotia 2000

What makes the Observer’s Handbook so useful? Many things. For one, it is small, almost pocket-sized, and can be carried out to an observing session or read in the comfort of one’s easy chair at home. For another, it is jam-packed with current information about astronomy and the objects we can see in the sky. In just over 350 pages it covers twelve topics, including “Basic Data”, “Time”, “Optics and Observing”, “The Sky Month by Month” (one of the most-used chapters), “Eclipses and Transits”, “The Moon”, “The Sun”, “Planets and Satellites”, “Asteroids”, “Meteors, Comets, and Dust”, “Stars”, and “Nebulae and Galaxies”.

Each chapter goes into detail with valuable information. The chapter on “Time” discusses the different ways time is measured or referred to in astronomy: Time scales, Time zones, Julian Date, Sidereal

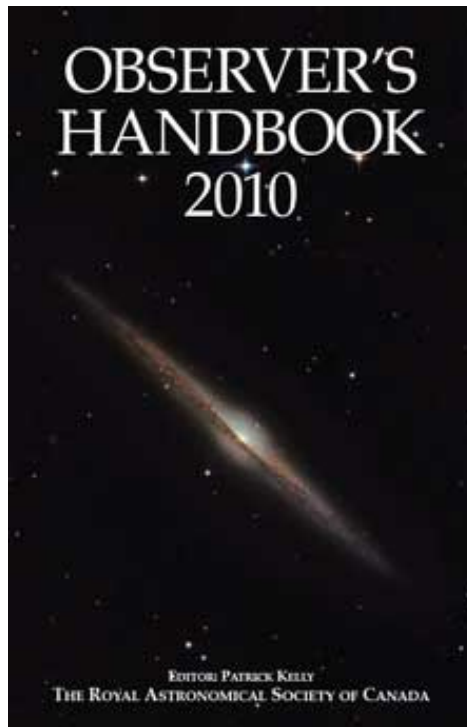
time, and Astronomical twilight. All you ever wanted to know about optics and observing can be found in the chapter on that subject: exit pupil, magnification, filters, limiting magnitude, polar alignment, deep-sky observing hints, and why and how to keep a logbook.

Charts galore may be found in the handbook, charting such things as sunrise/sunset, moonrise/moonset, star brightness, double stars, comets, and the moons of Jupiter and Saturn.

Schedules of celestial events throughout the year are given in advance so the observer can plan to observe them, like lunar and solar eclipses, meteor showers, occultation events, and the conjunction and opposition of the planets of the solar system, as well as how to find and observe the largest asteroids. The chapter on the sky month by month is a calendar of events for each month, showing the positions of the planets, the best times to observe such things as

the maxima and minima of variable stars like Algol (in Perseus), shadow transits of Jupiter’s moons, phases of our Moon, and the best times to look for Mercury, Venus, Mars, and the other planets and asteroids.

It would take a small booklet to describe all the features packed into the Observer’s Handbook, so the best way to learn about it is to check it out for yourself. Many of the BBAA club members buy the handbook every year. There is a back copy in the BBAA Library anyone can check out, by calling or emailing librarian Gerry Carver (popcarg@aol.com), who will bring the book to the next meeting. Much of the basic information in the earlier chapters of the book does not change from year to year, and is a good basis for the newby and a refresher for the experienced amateur astronomer.





April 2010

BBAA Events	Special Outreach	Astronomical Events
01 BBAA Meeting at TCC		
02 Skywatch at NWRP		06 Last Quarter
10 Nightwatch at Chippokes		
	15 Science Fair @ Green Run ES	14 New Moon
	23 Star Party @ Mount Trashmore	21 First Quarter
	24 Natl Astron. Day @ VB Central Lib.	
	28 Bayside Library Astronomy in VB	28 Full Moon

Sneak Peak into May:

05/01 Pungo/Blackwater Library 10 am

05/06 BBAA Monthly Meeting at TCC Building J, JC-12 at 7:30 pm

05/07 Skywatch at NWRP

05/14-15 Kent Blackwell's East Coast Star Party @ Coinjock, NC

05/15 Cub Scout Campout @ North Landing Beach, VB at 7:30 pm

05/15 Nightwatch at Chippokes (may be cancelled due to ECSP)

05/21 Astronomy Program @ Indian Rier Library, Chesapeake, 6:30 pm

05/25 Boardwalk Astronomy @ 24th Street Stage at 5:30 pm, dusk

05/26 Bayside Library Astronomy 7 pm

05/28 Nighthike at NWRP

