

BACK BAY observer

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



EPHEMERALS october 2011

12/02
BBAA Monthly Meeting
TCC VB
Building J, Room JC-12
7:30 pm

11/03
Shiver Fest
Mt. Trashmore, Virginia Beach
Dusk - 11 pm

12/16
Skywatch
Northwest River Park

12/17
Annual Holiday Luncheon
Fire&Vine Restaurant
1556 Laskin Road, VB
1:00 pm

12/24
Nightwatch
Chippokes State Park
Surry, VA

Looking Up!

Big changes are in the future for BBAA. We just received word that Ted Forte will be moving to Arizona after he retires in May, 2012. This will leave some big shoes to fill. Ted has been one of the major participants in this club for many years. The major functions he has filled will need to be taken over by one or more other members. Chief among these are:

1. Backbayastro list owner/moderator
2. Skywatch coordinator
3. Night Hike Coordinator
4. RRRT Coordinator & Yahoo RRRT List owner

If you are interested in taking over one or both of the two remaining functions, please contact any club officer. There are other jobs Ted did that no one can fill, like "Resident Planetary Nebula Expert". Ted, you will be sorely missed, our loss is Arizona's gain. Just let us know when we can come out to check out that 30"!

Another exit in the near future, our newsletter editor, Erica Smith-Llera, has informed me that she will no longer be able to provide that function after the February issue. She has ably performed this function for two years and put up with my late articles many times. If you have an interest and a passing familiarity with Microsoft Word or another editing program,

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Re-thinking an Alien World: The Strange Case of 55 Cancri e

Forty light years from Earth, a rocky world named "55 Cancri e" circles perilously close to a stellar inferno. Completing one orbit in only 18 hours, the alien planet is 26 times closer to its parent star than Mercury is to the Sun. If Earth were in the same position, the soil beneath our feet would heat up to about 3200 F. Researchers have long thought that 55 Cancri e must be a wasteland of parched rock.

Now they're thinking again. New observations by NASA's Spitzer Space Telescope suggest that 55 Cancri e may be wetter and weirder than anyone imagined.

Spitzer recently measured the extraordinarily small amount of light 55 Cancri e blocks when it crosses in front of its star. These transits occur every 18 hours, giving researchers repeated opportunities to gather the data they need to estimate the width, volume and density of the planet.

According to the new observations, 55 Cancri e has a mass 7.8 times and a radius just over twice that of Earth. Those properties place 55 Cancri e in the "super-Earth" class of exoplanets, a few dozen of which have been found. Only a handful of known super-Earths, however, cross the face of their stars as viewed from our vantage point in the cosmos, so 55 Cancri e is better understood than most.

When 55 Cancri e was discovered in 2004, initial estimates of its size and mass were consistent with a dense planet of solid rock. Spitzer data suggest

otherwise: About a fifth of the planet's mass must be made of light elements and compounds—including water. Given the intense heat and high pressure these materials likely experience, researchers think the compounds likely exist in a "supercritical" fluid state.

A supercritical fluid is a high-pressure, high-temperature state of matter best described as a liquid-like gas, and a marvelous solvent. Water becomes supercritical in some steam

turbines—and it tends to dissolve the tips of the turbine blades. Supercritical carbon dioxide is used to remove caffeine from coffee beans, and sometimes to dry-clean clothes. Liquid-fueled rocket propellant is also supercritical when it emerges from the tail of a spaceship.



Artist's rendering compares the size Earth with the rocky "super-Earth" 55 Cancri e. Its year is only about 18 hours long!

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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

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 September meeting is at the TCC Virginia Beach.** 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

Space Place, continued from page 2

On 55 Cancri e, this stuff may be literally oozing—or is it steaming? —out of the rocks.

With supercritical solvents rising from the planet's surface, a star of terrifying proportions filling much of the daytime sky, and whole years rushing past in a matter of hours, 55 Cancri e teaches a valuable lesson: Just because a planet is similar in size to Earth does not mean the planet is like Earth.

It's something to re-think about.

Get a kid thinking about extrasolar planets by

pointing him or her to "Lucy's Planet Hunt," a story in rhyme about a girl who wanted nothing more than to look for Earth-like planets when she grew up. Go to <http://spaceplace.nasa.gov/story-lucy>.

The original research reported in this story has been accepted for publication in *Astronomy and Astrophysics*. The lead author is Brice-Olivier Demory, a post-doctoral associate in Professor Sara Seager's group at MIT.

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



Welcome New Members!

Looking Up! Continued from page 1

please contact a club officer. This might be your chance to start an exciting career in Journalism.

And I thought the big news was going to be that this is my last column! (Did I hear applause out there?) We held elections at the November meeting. Courtney Flonta will be President starting in January, and I will be taking over her duties as Vice President. Bernie Strohmeyer will be our new Treasurer, and Kevin Swann is taking over as Secretary. I am sure you will all give them your full support.

Be sure to look for the Geminids meteor shower. These peak on the evening of Dec 13/14, a few days past full moon (~Dec 9), so you may have

an hour or so to look for them before moonrise. This shower can max out at 60-70 per hour and is second only to the August Perseid shower.

As this is my final missive, I would like to give you my thanks and say that I have very much enjoyed my stint as President of this organization. We have a great bunch of people and it has been a joy to work with all of you. I look forward to many outreach events with you in the years to come.

In the meantime, save your silver, and keep Looking Up!!

Mark E. Gerlach

BBAA Meeting Minutes November 3, 2011

The November, 2011 meeting was called to order at 7:34 p.m. in room JC-13 at TCC Virginia Beach Campus by club president Mark Gerlach. Those in attendance were Neill Alford, Kenny Broun, George Curran (guest from VPAS), Tom Flatley, Courtney Flonta, Amy Koenig Gardner, Mark Gerlach, Jeff Goldstein, Curt Lambert, Matt McLaughlin, Bill McLean, George Reynolds, Bernie Strohmeyer, Kevin Swann, Matt Swingle, Paul Tartabini, and "Bird" Taylor.

There was no Treasurer's report. Jim Tallman is out of the state on business.

Secretary's report: The minutes of the October meeting were read by the secretary, and approved as read.

ALCOR Report: Astronomical League Correspondent (ALCOR) Bill McLean reported that Nick Anderson is working on his Messier pin. He has already earned the regular Messier certificate, and is now going for the Honorary award.

Vice President and outreach coordinator Courtney Flonta reported that she just got a request from

Sarah Newton of the North Suffolk Public Library, asking for a presentation on astronomy on Monday night, January 23, 2012. More details later.

Tom Flatley brought in a broken spotting scope in which the eyepiece lenses had come apart. Courtney helped him put it back together. Everyone applauded.

Calendar items for November and December: November 4 Garden Stars was cancelled by Norfolk Botanical Garden. No one signed up to attend. Skywatch Friday, November 18. Also that night there will be an annual Boy Scout/Cub Scout campout off of West Road in Chesapeake, near Grassfield High School. Nightwatch at Chippokes Plantation State Park is scheduled for Saturday, November 26. The next BBAA meeting will be December 1 at TCC. Skywatch will be Friday, December 16, and annual luncheon Saturday, December 17. Nightwatch will be Saturday, December 24.

Observing Reports: Mark said that he saw Comet Garradd at the East Coast Star Party. No tail was identifiable. New member Paul Tartabini observed

Jupiter and saw the Great Red Spot recently. Neill Alford said he was in Minnesota last month, and saw some very dark skies. He saw the Northern Lights, and got some good photos of Andromeda with his Canon Rebel camera. Mark said he took some good night sky pictures at Green Bank with his camera on a tripod.

Old business: Professor Ken Broun reported on his students who attended Kent Blackwell's East Coast Star Party. He said that all his students commented on how knowledgeable and accommodating were the people at ECSP. The students were very appreciative of the nice treatment they received there. Amy K. Gardner said that her four middle school students liked it as well. Mark Gerlach told how Dale Carey had arranged the sale of telescope equipment for a woman whose astronomer husband had passed away. Everyone fared well in the deal, Mark said. Buyers got some real bargains, while the woman got some profit from the equipment she chose to sell.

New Business: The annual December BBAA Anniversary Luncheon will be held Saturday, December 17 at 1:00 PM at Fire and Vine Restaurant, 1556 Laskin Road, In the Hilltop area of Virginia Beach.

A Treasured Member Says Good-Bye

By Ted Forte

After 26 years in Virginia and 16 years in the BBAA it's now time for me to move on. I will miss Virginia, my friends, and the club a great deal but I am now looking forward to a new adventure in Arizona.

Before I tell you all about it, there are some club related things to deal with as you will need to designate a replacement or replacements for the club functions I currently fulfill. First up is this very forum - I am the list owner and moderator for backbayastro and someone needs to step up and assume that role. It's just a matter of my going in and designating someone else as list owner.

Second, I have become the principal go-between for our activities at Northwest River Park. These in-

Nomination of officers for 2012.

After much discussion and hand-wringing, the following slate of officers was nominated: President, Courtney Flonta; Viced President, Mark Gerlach; Secretary, Kevin Swann; Treasurer, Bernie Strohmeyer. No other nominees were presented. It was moved and seconded that the nominations be closed. A motion was made and seconded that the slate of officers be elected by acclamation. Motion carried.

Mark Gerlach showed a brief DVD, "Backstage on Mars: Secrets of the Animators", showing an animation of the Mars Exploration Rovers under construction, at launch, en route, and on Mars. The person who did the animation narrated, and explained how some of the rovers' techniques and features were visualized and redesigned as a result of the "testing" via the animation.

The meeting was adjourned at 9:05 pm.

clude Skywatch, our monthly public observing session, and Night Hike which is an additional event that we do during the summer. The Skywatch function is a matter of creating the Skywatch schedule each year and submitting it to the park, confirming (or canceling) with the park before each session and making sure that, if we confirm the session, someone from the club actually shows up. Typically, I try to arrive early and set out a sign on the road to help newcomers find us. I recently made two new Skywatch signs that are currently stored in the men's room at the equestrian area.

Speaking of signs. I have a small A-frame sign that says Back Bay Amateur Astronomers on

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December 2011

Here's this year's rendition of NGC1499 aka California nebula by Stu Beaber. "Taken in Ha from Gates Co., NC with the wide field rig (200mm FL lens/QSI583WS camera). I shot the Witch Head nebula the same night, however, I don't think I had enough aperture to gather enough light from this dim object to produce a successful finished product. The nebula was prominent through the clear and blue filters, albeit dim and without a lot of detail. I should have been shooting at about 300-400mm FL also as the object was fairly small at 200mm FL...win some...lose some. See the rig I used for this effort on the innovation page <http://www.wd4sel.com/innovations.htm>."



Imaging camera: QSI583WS
Imaging scope: 200mm camera lens
Guide camera: Modis DSI pro / PHD software
Guide scope: HD 86mm refractor
Mount: Losmandy G11/Gemini 4/tripod mounted
Object: NGC1499 aka California nebula
Date: November 25, 2012
Location: Gates Co., NC
Filters: Astrodon (non Ha for 12210 minutes)

Once in a Year Seeing

by Mark Ost

Just have to say that last night had some of the best Lunar seeing that I have experienced in memory. Being a bit warmer than the previous night doubtless contributed to the conditions but I was able to see small features that I never remember seeing on the moon. Even a more difficult test, I was able to clearly see low relief features on the sunlit portion of the moon in great detail which never happens! A most remarkable night. Maybe we will have the same conditions tonight. Jupiter also benefited from the conditions. Multiple bands were visible in the polar regions which typically do not show particularly well. There were two dark barges in the equatorial band. These have been coming and going lately and seem to change night to night.

On the planetary nebula front. I ran into a small IC planetary in Auriga, IC 2149. Now this is a small planetary in a fairly blank part of the sky, not something you would run across but it holds magnification very well and I was able to take it to

650X in the 5 inch. The central star is listed at 11.5 magnitude. Observing at low powers may only show the star surrounded by a very small haze of the nebula. I thought I could just barely detect the nebula at 50x but that might be an illusion or not. Last night was exceptionally steady though. At intermediate powers 100X to 400x the nebula starts to come out but the central star seemed to vanish. I need to re-observe this as that does not make much sense. For a tiny object it really takes power well. Cranking it up to 600 plus power the object swells and the central star makes it's reentry. No filter was used on this tiny but bright object. There are no bright stars in the area so you have to use all your tricks in focusing the nebula at very high power. If you are slightly off the central star vanished in the blurred focus image. There is a real art form in focusing at high powers and focus can make all the difference in seeing detail and missing detail. Having an equatorial drive also makes the job much easier. •

Treasured, continued from page 5

both sides and a banner that I would like to give to the club if they are wanted.

Night Hike also requires creation of the schedule and submission of the dates to the park. The Night Hike coordinator will have to work more closely with the park representatives than the Skywatch coordinator will. If someone would like to continue this program, I'll go over how I've been doing it with them and then introduce them to the park representatives. I assume the park will continue night hikes whether BBAA participates or not but they will be very disappointed if we don't continue.

I have not yet told anyone at NWRP that I will be leaving the area. I thought it would be best if I could just tell them who will be dealing with them in the future at the same time. The schedules for 2012 are already established, submitted, and on our calendar. The last function is as RRRT coordinator (and list owner of the RRRT Yahoo site). If BBAA wants to continue to be a part of this NSU observatory, someone needs to step up. I have a set of keys to the gate and the main buildings at Fan Mountain that I signed for at the University of Virginia in Charlottesville. I want to turn in or officially transfer those keys to someone before I leave. If no one wants the responsibility, I'll turn them in, but if someone is willing, I think they could take them to UVA during normal school hours and re-sign for them. We'll have to talk to UVA about that. The rest of the job really amounts to just keeping in contact with Dr. Salgado and organizing our volunteer efforts when and if he has something he needs help with. I have not spoken to Carlos about it yet.

I will retire in May and will be moving to Sierra Vista, AZ. I am purchasing a property there, a very pretty 2400 sq ft southwestern style ranch home that comes equipped with a 30' x 30' roll off roof observatory right in the back yard. Inside the observatory is a 30-inch f/4.45 Starsplitter Dobsonian that is completely computer controlled. I'm buying

that too. There is room for the 18-inch and a couple of smaller telescopes too. The 4.5 acre property is at 4150 feet above sea level and the sky is Mag 7 (on the cusp between Bortle class 3 and 2). It is nine miles from town and is surrounded by game preserve and bird sanctuary. It lies in a wide valley between the Huachuca mountains to the east and the Mule Mountains to the west and is a mile and a half down a dirt road from the unlit highway that connects Sierra Vista with Bisbee AZ. The view to the south is mostly uninhabited desert scrub stretching away to distant mountains. Clear, stable, air is the norm, with exceptional transparency and good seeing. SQM readings better than 21.5 right in my backyard. Average humidity is 8%. Average rainfall is 12" per year with 60% of that falling between Independence Day and Labor Day. The temperature rarely breaks 100; its about 15 degrees cooler than Phoenix on average. The county has an excellent lighting ordinance that they actually enforce. No grass to cut. No daylight savings time. I just couldn't ask for more.

So, over the next few months I would like to turn over those duties that I mentioned:

1. Backbayastro list owner/moderator
2. Skywatch coordinator
3. Night Hike Coordinator
4. RRRT Coordinator

I can continue in the jobs until spring if need be, but I'm ready to turn over any and all jobs any time. While I'll be joining the Huachuca Astronomy Club next year, I'll always be a BBAA member at heart. This club has been a significant part of my life for well more than a decade and its ranks contain some of my closest and dearest friends. I won't miss work, humidity, mosquitoes or living in a light polluted neighborhood, but I will sorely miss all of you.





BACK BAY *observer*

December 2011

BBAA Events	Special Outreach	Astronomical Events
02 BBAA Monthly Meeting, VB		02 First Quarter
03 Shiver Fest @ Mt. Trashmore, VB		
		10 Full Moon
16 Skywatch at NWRP		17 Last Quarter
24 Nightwatch Chippokes State Park		24 New Moon

Sneak Peek into January

Thursday 01/05/2012 Meeting at TCC VA Beach, Building J, Room JC-12 at 7:30 p.m.

Friday 01/06/2012 Garden Stars at Norfolk Botanical Gardens at 7:00 p.m.

Friday 01/13/2012 Skywatch at Northwest River Park

Saturday 01/21/2012 Nightwatch at Chippokes State Park, Surry VA.

