BACK BAY observer

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

Looking Up!

I'll have to admit that I haven't done much observing since our last newsletter. We've been doing extensive Business Process Analyses at work. This is a set of complicated, very detail oriented tasks and I've been getting home exhausted.

At our November meeting we held the annual elections for 2011 officers. Elected to second consecutive one-year terms were: myself as President, Courtney Flonta as Vice President, and George Reynolds as Secretary. Jim Tallman was nominated and elected to a first term as Treasurer. Many thanks to Chuck Jagow for his service as Treasurer in 2010.

Sky Watch was cancelled in November, as was Garden Stars. The first due to clouds, the second by the Botanical Gardens staff. The Leonids Meteor Shower peaked on the 17th, but I didn't get to see that either. (Did I hear that someone opened a new scope?)

Upcoming Events:
On December 6, the Moon will occult Mars. According to lunar-occultations.com, the disappearance as viewed from Raleigh-Durham (the nearest city in the list) is expected at 22h38m56s UT, about 7:39 pm local time.) I expect you would have to have a very good view of the horizon to catch it. Maybe I can climb one of my pine trees ..... nah...

December 6th through the 19th is the Geminids Meteor Shower with the peak around the 13th or 14th. The Geminids are known for producing up to 60 multicolored meteors per hour. Look to the East after midnight.

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EPHEMERALS december 2010

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

12/03
Skywatch
Northwest River Park
Dusk

12/04
Nightwatch
Chippokes State Park
Dusk

12/11
BBAA Holiday Party
Tripp's
101 S. Independence Blvd.
Virginia Beach

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NASA's Space Place

Blue Rings around Red Galaxies

by Dr. Tony Phillips

Beautiful flat rings around the planet Saturn are one thing—but flat rings around entire galaxies?

That is the astonishing discovery that two astronomers, Samir Salim of Indiana University at Bloomington and R. Michael Rich of UCLA described in the May 10, 2010, issue of The Astrophysical Journal Letters.

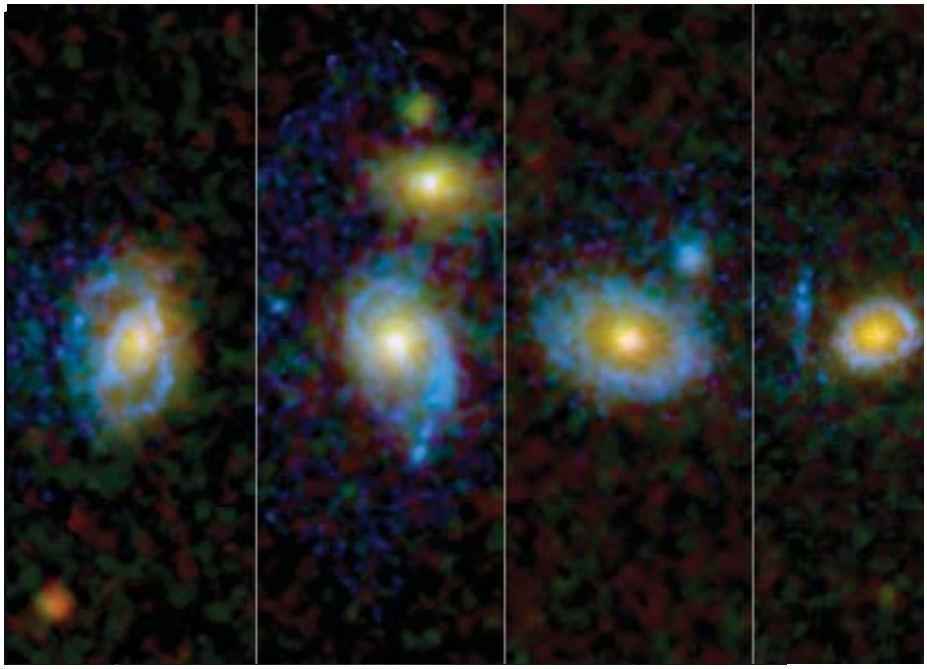
"For most of the twentieth century, astronomers observing at visible wavelengths saw that galaxies looked either 'red and dead' or 'blue and new,'" explained Salim. Reddish galaxies were featureless, shaped mostly like balls or lentils; bluish ones were magnificent spirals or irregular galaxies.

Elliptical galaxies looked red, astronomers reasoned, because they had mostly old red giant stars near the end of their life cycles, and little gas from which new stars could form. Spiral and irregular galaxies looked blue, however, because they were rich in gas and dust that were active nurseries birthing hot, massive, bluish stars.

At least, that's how galaxies appear in visible light.

As early as the 1970s, though, the first space-borne telescopes sensitive to ultraviolet radiation (UV) revealed something mysterious: a few red elliptical galaxies emitted "a surprising ultraviolet excess," said Rich. The observations suggested that some old red galaxies might not be as "dead" as previously supposed.

To investigate, Salim and Rich used NASA's Galaxy Evolution Explorer satellite to identify 30 red elliptical galaxies that also emitted the strongest UV. Then they captured a long, detailed picture of each galaxy using the Hubble Space Telescope.



The Galaxy Evolution Explorer UV space telescope helped to identify red elliptical galaxies that also emitted the strongest UV. These are detailed, long-exposure Hubble Space Telescope images of four of these galaxies that capture the UV-emitting rings and arcs indicative of new star formation.

"Hubble revealed the answer," says Salim. The UV radiation was emitted by enormous, flat bluish rings that completely surrounded each reddish galaxy, reminiscent of the rings of Saturn. In some cases, the bluish rings even showed a faint spiral structure!

Because the bluish UV rings looked like star-forming spiral arms and lay mostly beyond the red stars at the centers of the elliptical galaxies "we concluded that the bluish rings must be made of hot young stars," Salim continued. "But if new stars are still being formed, that means the red-and-dead galaxies must have acquired some new gas to make them."

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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
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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 January Meeting will be held at VB Planetarium, Plaza MS on Lynnhaven Rd 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

Space Place, continued from page 2

How does a galaxy "acquire some gas?" Salim speculates that it was an act of theft. Sometimes galaxies have close encounters. If a gas-rich irregular galaxy passed close to a gas-poor elliptical galaxy, the gravity of the elliptical galaxy could steal some gas.

Further studies by Galaxy Evolution Explorer, Hubble and other telescopes are expected to reveal more about the process. One thing is certain, says Rich: "The evolution of galaxies is even more surprising and beautiful than we imagined."
The press release is available at http://www.galex.caltech.edu/newsroom/glx2010-03f.html. The full published article is "Star Formation Signatures in Optically Quiescent Early-Type Galaxies" by Samir Salim and R. Michael Rich, The Astrophysical Journal Letters 714: L290–L294, 2010 May 10.

Point the kids to the Photon Pile-up Game at http://spaceplace.nasa.gov/en/kids/galex/photon, where they can have fun learning about the particle nature of light.

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

On December 21st there is a total eclipse of the moon. This one occurs less than a day before Winter Solstice (23:38UT). The Penumbral eclipse begins about 05:29 UT, with totality beginning at 07:40 UT and lasting about 72 minutes. See http://eclipse.gsfc.nasa.gov/eclipse.html for the detailed beginning and ending information. I am having surgery on the 20th to fix my shoulder, so I doubt that I will feel like going outside from Midnight to "Oh-Dark-Thirty" on Tuesday night. (Oxycodone and all that…) Somebody take a picture for me?

One Star

Of all the stars man has looked at thru the ages, one of the most important ones has never been identified. Various interpretations have proposed that it was a nova, or a supernova, or a dance of the superior planets in retrograde. The story may even be apocryphal, having been added into the greater story at some re-translation lost in the annals of time. In any case this one star represents one of the most important events in the history of man. Merry Christmas to all of you and to all your families.

Mark Gerlach

Mark Gerlach

A large number of BBAA members have a membership expiration date of the end of this month, 12/31/2010. Please consider renewing your membership for the 2011 year by mailing a check to

BBAA
P.O. Box 9877
Virginia Beach, VA 23450.

The annual dues payment is still $18.00, and if one wants to donate to the BBAA Scholarship Fund, you may add $2.00 and pay a total of $20.00 to renew and donate. (Or, any amount over the $18.00 dues will be applied to the Scholarship Fund.)

You may also pay at the monthly meeting or at the annual luncheon, to be held December 11 at 12:00 Noon at Tripp's Restaurant on Independence Blvd in Virginia Beach.

If you are not sure of your membership expiration date, please ask the club secretary, George Reynolds at pathfinder027@yahoo.com.

BBAA Meeting Minutes
November 4, 2010

The November meeting was called to order at 7:42 p.m. by President Mark Gerlach. Those in attendance were Neill Alford, Ken Broun, Courtney Flonta, Mark Gerlach, Chuck Jagow, Karen Jagow, Curt Lambert, Ben Loyola, Matt McLaughlin, Bill Newman, George Reynolds, John Sammons, Catherine Shola. Jim Tallman, Margo Zuchristian, and Wendy Zuchristian.

There was some initial discussion concerning the 2011 VAAS conference, to be hosted by the BBAA. Potential speakers mentioned were Ted Forte, Michelle Shinn, and Dr. Bruce Bodner.

The main order of business for this month's meeting was the election of officers for 2011. The nominees were:

President, Mark Gerlach
Vice President, Courtney Flonta
Secretary, George Reynolds
Treasurer, Jim Tallman

All four were elected by acclimation.

John Sammons, of Greenbrier Intermediate School, brought refreshments -- pizza and sodas -- to thank the members of BBAA for supporting the school's Science Night last month.

Chuck Jagow said he will send a request to Chippokes Plantation State Park for renewal of the club's use permit for next year.

The annual BBAA anniversary luncheon held in December was mentioned. Several people indicated that they would prefer a location other than Lynnhaven Fish House this year. The date and place will be set and the members will be informed via the Backbayastro Yahoo group.

We will need to obtain a meeting place for the January 2011 meeting, since TCC will not be available. Mark Gerlach will contact Chuck Dibbs and ask for the VBCPS Planetarium.

Ben Loyola gave an informative presentation on the use of filters for astronomy. He described and demonstrated various nebula filters, OIII (oxygen 3) filters, narrow-band and broad-band filters. He described how some very narrow-band filters block all but one or a few wavelengths of light. He suggested that for imaging in light-polluted areas, a very narrow-band filter be used. He showed how so-called light pollution reduction filters work to attempt to block the wavelengths of mercury- and sodium-vapor lights and other forms of light pollution. He explained how some colored filters may be used in visual astronomy to enhance certain features on the planets, and how a neutral density or variable density filter can help one see the moon or bright planets by cutting some of the glare.

The meeting was adjourned at 8:43 p.m. by President Mark Gerlach.

"Never mind that. I think I've just discovered a new planet!"

Planetary Observation: A Defense

Mark Ost

A short history: After WWII and with the advent of leisure time and money, a golden age of amateur astronomy was ushered in. An interest in technology, combined with the start of the cold war, created a perfect atmosphere to foster interest in citizen astronomy. Prior to that, it was a pastime of the well off who had the expendable income and time to pursue observations. Amateurs up until the 1960's were, by definition, mostly planetary observers. Limited by their equipment to the solar system, manufacturers catered to this type of observing. The great Unitron refractors are a perfect example of the equipment design following the focus of the hobby.

Along came John Dobson who created a way to mount really large mirrors in a simple support. The universe opened up to what had previously been the preserve of the professional astronomer. With the universe being the limit, observers naturally gravitated to deep sky work and planets faded to a secondary interest. Telescope design followed suit and soon almost all telescopes were more suited for light gathering than they were for the high resolution that planets required. This trend continues today; which is somewhat odd as the spread of light pollution has limited the availability of good sites for deep sky observing. Planets, on the other hand, are in a sense better suited for observing conditions today, not being affected by light pollution. Yet there has been no renaissance, so to speak, of planetary or lunar observation. Equipment designed for serious planetary use is quite limited.

Planets do offer the urban dweller an opportunity to do really serious observing if they have the patience, and it takes a lot, to stick with it. For casual observing, which can be quite rewarding, no real special equipment is required. As Ted has pointed out it is best to cultivate your personal skill on what equipment you have. If you do find the interest and aptitude for this type of observing then it is time to examine what equipment changes you need to optimize your observations.

There are a host of planetary events that require no special preparations beyond planning. Jupiter's moons offer many opportunities to make fine observations. The moon, cursed by deep sky folks, offers limitless challenges. Though it does not change, there are countless difficult observations that require real skill to accomplish. The same can be said for Saturn. I rank observing the Martian moons and one of the moons of Uranus with Ted as some of my best observations I have done in my career. It took me two years of constant observing to see the rille that runs down the Alpine Valley on the moon. Kent and I sweated blood one night on a grazing occultation of a star by the moon only to be skunked by being out of place by the grand total of oh say 2000 feet! You would not think 2000 feet makes a difference with an object a quarter of a million miles away but guess what! Occultation observers should never go near rail road tracks or a busy road...far too dangerous!! If you like watching hub caps rust you might be a planetary observer. If you are happy with one hour of good seeing over a four month Martian apparition, you might have what it takes! It is worth the effort though.

Fall 2010 ESCP Photos

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December 2010

BBAA Events	Special Outreach	Astronomical Events
02 BBAA Monthly Meeting at TCC VB		
03 Skywatch at NWRP		05 New Moon
04 Nightwatch at Chippokes		
		13 First Quarter
		21 Full Moon
		28 Last Quarter

Sneak Peak into January

1/06 *Monthly Meeting at VB Planetarium, Plaza MS on Lynnhaven Rd at 7:30 PM*

1/08 *Nightwatch at Chippokes State Park, Surry, VA*

1/28 *Skywatch at NWRP*