BACK BAY observer

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

EPHEMERALS
December 2014

12/12
Skywatch
Northwest River Park

12/13, Noon
Anniversary Luncheon
Tripps Restaurant
101 Independence Blvd
VA Beach
(Info & Directions Here)

12/20
Nightwatch
Chippokes State Park
Surry, VA

1/08, 7:30 pm
BBAA Monthly Meeting
Plaza Middle School, VA Beach
KIVA Room

Looking Up!

Well, here we are again at the end of another successful BBAA year. The team did well this year with our outreach events. We actually had all of the Boardwalk Astronomy events this year, so that really helps the scholarship program. We had a few school requests this year, one super wild ride though a big storm at the 96X-fest, and we have had record numbers at our monthly Skywatch events at Northwest River Park (NWRP).

Also this year we rejoined the NASA Night Sky Network where we earn outreach training kits by using their resources for club events. We received one kit this year and it was pretty cool. It had a one meter square map with the Sun on one side and the Solar System on the other, it came with scale model planets, moons, and asteroids to use with the Sun map, and I hear Leigh Ann did a great job of putting the planet models together and getting them painted. I'm sure we will roll that out for our next Astronomy Day event.

There is big news for our monthly Skywatch at NWRP! Beginning in January 2015 Skywatch will be held on Saturdays! This should allow more people to come out and visit with us, the public and BBAA members alike, and we won't have to fight rush hour traffic to get there.

At our November meeting, we had "elections" and it looks like you are all stuck with the same officers for another year. Next year we need to be replaced though, so do not be surprised if we start trying to recruit a few of you to step up. We have plenty of members who are very capable leaders.

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Just a reminder, I may have stated at the November meeting that there was no December meeting and I was wrong. Not sure why I thought there was not a meeting but there is. We also have our annual luncheon on the 12th of December. This year we will be at Tripps, in Virginia Beach, on Independence Blvd., at Town Center. Hope to see you there.

So here is to the great job the BBAA members have done this year, and to expanding on that great job in 2015!

Jim Tallman

November 6, 2014 Meeting Minutes

The November 2014 meeting was called to order at 7:32 PM in room JC-10 of the Science Building at TCC inVirginia Beach, by president Jim Tallman.

Rapid Response Robotic Telescope (RRRT):

- Bird Taylor reports that, despite multiple messages to RRRT director Carlos Salgado, he has not heard back yet. He reports that Dr. Sayanagi of Hampton University has not heard back from the director regarding his submission either. Due to difficulty with the RRRT, he looked into Skynet, but because we are not a university, it's difficult to get access.

Observing Reports:

- Many reports from the East Coast Star Party in Coinjock. Mark Gerlach, Leigh Anne Lagoe, Chris and Tom Jarvis all worked on Messier objects. Mark and Leigh Anne each found about a dozen Messiers. Melvin Spruill made a time lapse video including Andromeda and the Pleiades. George Reynolds worked on the double star program, marking off 36 double stars. Just a few days after the peak of the Orionid meteor shower, the ECSP was also treated to many bright green meteors all weekend long. Paul Tartabini viewed the 2nd brightest star in the night sky, Canopus, as it briefly came up over the horizon, between the trees.

Old Business:

- The annual Club Anniversary Christmas Luncheon is scheduled at Tripps Restaurant in Virginia Beach on December 13 at noon.

Elections of Officers for 2015:

- All four current officers are willing to hold their positions for one more year. There were no other candidates. A motion was made, seconded, and voted on to elect the current officers for a second term.

President: Jim Tallman
Vice President: George Reynolds
Treasurer: Chuck Jagow
Secretary: Leigh Anne Lagoe

Meeting adjourned at 8:03 PM followed by a planetarium presentation by Kenny Broun.

Minutes taken by Secretary Leigh Anne Lagoe

Note: Minutes were modified due to space constraints.

Full minutes can be viewed at http://backbayastro.org/minutes/2014-09-minutes.pdf

After the November meeting BBAA members were treated to a planetarium show by TCC Astronomy Professor and BBAA Member, Kenny Broun. Meeting attendees watched a laser light show, footage of NASA's last space shuttle launch, and took a virtual trip through the history of the universe.

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/observer/newsletter.shtml**

Please submit articles and items of interest no later than the date of the monthly meeting in order to be in the next month's edition.

Please submit all items to: bbaa.newsletter@gmail.com or BBAA Observer, P.O. Box 9877, Virginia Beach, VA

BBAA Meetings

The BBAA meet the first Thursday of every month except for July. The next meeting will be held on Jan. 8, 2015 in the KIVA Room at Plaza Middle School located at 3080 South Lynnhaven Rd in Virginia Beach at 7:30 pm.

Also, be sure to attend the Anniversary Luncheon at Noon on Dec. 13, 2013 at Tripps Restaurant in VA Beach.

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BBAA Internet Links

BBAA Website
www.backbayastro.org

Yahoo! Groups
tech.groups.yahoo.com/group/backbayastro

BBAA Observer Newsletter
www.backbayastro.org/observer/newsletter.shtml

Observer's Corner

Jim has nicely captured one of the most splendid parts of the night sky, showing numerous deep sky objects including the stunning Flame Nebula (NGC 2024) and the famous Horsehead Nebula (B33).

HE CONQUERS WHO ENDURES

A year ago, in his Dec. 2013 *Looking Up* column, Jim Tallman related, "my experiences this year with learning the quirks of astrophotography have, at times, left me wondering why I even wanted to start down this path". This recent image that Jim took at the Fall East Coast Star Party is proof that perseverance has its rewards. Image taken with a Takahashi TAO-130 Refractor, G-11 Mount, Canon T3i.

NASA's Space Place

Where the Heavenliest of Showers Come From

By Dr. Ethan Siegel

You might think that, so long as Earth can successfully dodge the paths of rogue asteroids and comets that hurtle our way, it's going to be smooth, unimpeded sailing in our annual orbit around the sun. But the meteor showers that illuminate the night sky periodically throughout the year not only put on spectacular shows for us, they're direct evidence that interplanetary space isn't so empty after all!

When comets (or even asteroids) enter the inner solar system, they heat up, develop tails, and experience much larger tidal forces than they usually experience. Small pieces of the original object—often multiple kilometers in diameter—break off with each pass near the sun, continuing in an almost identical orbit, either slightly ahead-or-behind the object's main nucleus. While both the dust and ion tails are blown well off of the main orbit, the small pieces that break off are stretched, over time, into a diffuse ellipse following the same orbit as the comet or asteroid it arose from. And each time the Earth crosses the path of that orbit, the potential for a meteor shower is there, even after the parent comet or asteroid is completely gone!

This relationship was first uncovered by the British astronomer John Couch Adams, who found that the Leonid dust trail must have an orbital period of 33.25 years, and that the contemporaneously discovered comet Tempel-Tuttle shared its orbit. The most famous meteor showers in the night sky all have parent bodies identified with them, including the Lyrids (comet Thatcher), the Perseids (comet Swift-Tuttle), and what promises to be the best meteor shower of 2014: the Geminids (asteroid 3200 Phaethon). With an orbit of only 1.4 years, the Geminids have increased in strength since they first appeared in the mid-1800s, from only 10-to-20 meteors per hour up to more than 100 per hour at their peak today! Your best bet to catch the most is the night of December 13th, when they ought to be at maximum, before the Moon rises at about midnight.

The cometary (or asteroidal) dust density is always greatest around the parent body itself, so whenever it enters the inner solar system and the Earth passes near to it, there's a chance for a meteor storm, where observers at dark sky sites might see thousands of meteors an hour! The Leonids are well known for this, having presented spectacular shows in 1833, 1866, 1966 and a longer-period storm in the years 1998-2002. No meteor storms are anticipated for the immediate future, but the heavenliest of showers will continue to delight skywatchers for all the foreseeable years to come!

What's the best way to see a meteor shower? Check out this article to find out: http://www.nasa.gov/jpl/asteroids/best-meteor-showers

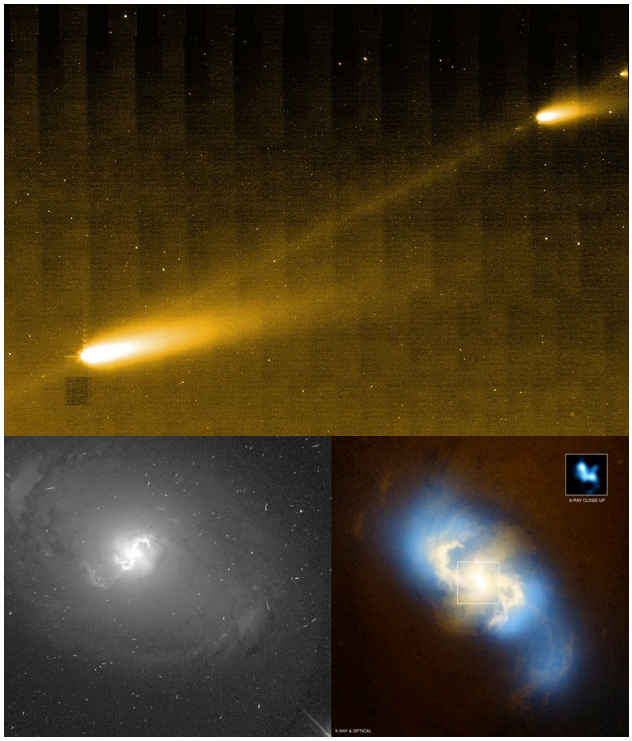


Image credit: NASA / JPL-Caltech / W. Reach (SSC/Caltech), of Comet 73P/Schwassman-Wachmann 3, via NASA's Spitzer Space Telescope, 2006.

Sketching a Close Encounter | Nick Anderson

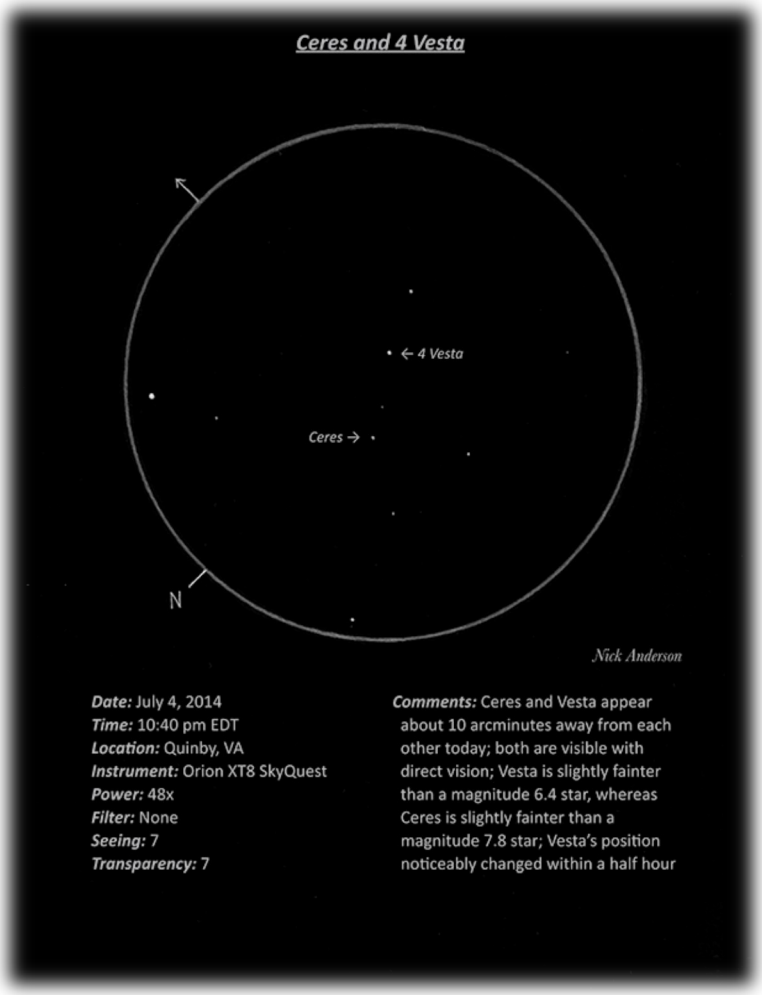
Featured in this sketch is a unique view of asteroids Ceres and Vesta, at the time only about 10 arcminutes away from each other!

The asteroid belt encompasses a region roughly between the orbits of Mars and Jupiter. It is thought that gravitational perturbations from Jupiter prevented planetary formation in this region. Instead, numerous small bodies known as asteroids (Greek for "star-like") occupy this region.

Ceres is the most massive asteroid, containing approximately a third of the asteroid belt's mass. However, it never achieves an apparent magnitude brighter than 6.7, beyond the typical naked eye limit. However, 4 Vesta—the third largest asteroid—can reach a brightness exceeding that of Uranus.

Contrary to popular belief, the belt is sparsely populated and most asteroids are very small. From essentially any given asteroid, an observer would typically require optical aid to see another (except in the case of a close encounter).

Looking at this sketch it is interesting to take note that the Dawn spacecraft could be found somewhere in between the duo, en route to Ceres from Vesta (where it completed its 14-month Vesta orbital mission in September 2012). Dawn is scheduled to reach Ceres in March or April of 2015



Editor's Note: I actually sketched the same celestial close encounter, but my result looked more like directions you might scrawl on the back of a napkin to help a friend find your house. Fortunately, Nick was kind enough to share his sketching procedure. If his process is a bit too much for you he says, "at a minimum see about getting yourself a set of sketch pencils (that's where you get numbers other than "#2"), a blending stump and a kneaded eraser." You can also check out gimp as a free alternative to Photoshop.

1. Complete raw eyepiece sketch on 8.5 x 11" white computer paper with 5.5" pre-drawn circle
2. Use light box to trace positions of stars and other objects to a more fancy sheet of 8.5 x 11" white cardstock
3. Use varying grades of pencils to match raw sketch and enhance shading (with blending stump) where necessary
4. Scan at no less than 400 dpi and save as a PDF
5. Import PDF as image to Photoshop CS5
6. Grayscale the image
7. Edit as necessary (removing smudges and other artificial artifacts), as well as tinkering with especially the brightness/contrast
8. Invert image (optional)
9. If inverted, adjust levels
10. Edit as necessary again (optional)
11. Use pre-made template from Illustrator CS5 to type in text
12. Copy text from Illustrator, paste onto Photoshop image as a smart object
13. Reduce to 75 dpi
14. Save as jpg

Astronomical League Notes

Since we are all members of the Astronomical League (AL) I thought it would be good for new and forgetful members to read what it's about and what some of their dues goes toward...

BBAA Astronomical League Coordinator, *Bill McLean*

The Astronomical League (AL) is composed of over two hundred and forty local amateur astronomical societies from all across the United States. These organizations, along with our Members-at-Large, Patrons, and Supporting members form one of the largest amateur astronomical organizations in the world.

Our basic goal is to encourage an interest in astronomy (and especially amateur astronomy) throughout America. Many people have seen pictures of the other planets in our Solar System from spacecraft, but have no idea that they too can see these objects with a telescope. We want people to get access to telescopes, whether it is through their local astronomical society, school, or their own instruments, and use them to view the beauty in the heavens.

The mission of the Astronomical League is clearly stated in the masthead: to promote the science of Astronomy. The major benefit of belonging to this organization is receiving the quarterly newsletter, The Reflector, which keeps you in touch with amateur activities all over the country. The chance to meet the people you read about there occurs during our annual National Convention, or at one of the ten regional conventions that the AL sponsors.

Article taken from the AL website.

List of BBAA Members who have earned AL Awards since 2013

Name	Program	Notes	Date
Jim Tallman	Double Star		3/3/2013
Jim Tallman	Lunar		3/20/2013
Nick Anderson	Local Galaxy		3/31/2013
Nick Anderson	Planetary Nebula	Basic	4/6/2013
Nick Anderson	Herschel 400		6/1/2013
Nick Anderson	Binocular Messier		9/13/2013
Zachary Colvin	Outreach	Stellar	9/21/2013
Zachary Colvin	Outreach	Outreach	9/21/2013
Nick Anderson	Planetary Nebula	Advanced	10/5/2013
Nick Anderson	Lunar		10/11/2013
Mark Gerlach	Outreach	Stellar	10/22/2013
Mark Gerlach	Outreach	Master	10/22/2013
Chris Jarvis	Outreach	Outreach	10/22/2013
Thomas Jarvis	Outreach	Outreach	10/22/2013
Chris Jarvis	Outreach	Outreach	10/22/2013
Nick Anderson	Deep Sky Binocular		10/26/2013
Nick Anderson	Double Star		11/23/2013
Nick Anderson	Solar System		11/25/2013
Nick Anderson	Master Observer Award		11/25/2013
Dino Giangregorio	Outreach	Outreach	2/10/2014
Benito Loyola	Messier	Honorary	7/10/2014
Leigh Anne Lagoe	Outreach	Outreach	8/30/2014

Lunar Eclipse Gallery

One of the many celestial highlights of 2014 had to be the October 8 lunar eclipse. Actually the second lunar eclipse of the year (the first occurred on April 15 but was plagued by clouds in Hampton Roads), BBAA members were out in force even though first contact didn't occur until 5:15 AM. The above sequence of images was taken by Chuck Jagow and shows the progression of the eclipse beginning shortly after first contact (left), then minutes later as the Earth's shadow covered nearly half of the Moon (center) and finally near the time of second contact, just as the Moon was setting on the East Coast.

Kent Blackwell also took some interesting images shown below, with a lovely landscape scene that places the whole event in context on the left and a fascinating shot that takes advantage of the reduced glare of the Moon to reveal some objects that would normally be hidden, including the planet Uranus!

December 2014

BBAA Events	Special Outreach	Astronomical Events
		12/06 Full Moon
12/12 Skywatch @ Northwest River Park		12/13 Geminids Peak
12/13 Anniversary Luncheon, Tripps, VA Beach		12/14 Last Quarter
		12/21 New Moon
12/20 Nightwatch @ Chippokes Plantation		12/28 First Quarter

Sneak Peek into January

Thu 1/08/2015 Monthly Meeting, Plaza Middle School, 7:30 pm
Sat 1/10/2015 Skywatch at Northwest River Park, 5:00 pm
Sat 1/17/2015 Nightwatch at Chippokes State Park, Surry VA.