



BACK BAY observer

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

EPHEMERALS october 2014

10/02, 7:30 PM
BBAA Monthly Meeting
TCC Campus, VA Beach
Building J, Planetarium

10/10, 6:30 PM
Skywatch
Northwest River Park

10/16, 6:00 PM – 8:00 PM
STEM & M Night
Greenbrier Intermediate School

10/23-25,
East Coast Star Party
Hampton Lodge Campground
Coinjock, NC

10/25, 5:00 PM
Nightwatch
Chippokes Plantation
Surry, VA



Looking Up!

Fall is here and I just love it when summer is over. Don't get me wrong, I like summer because there are so many interesting things going on in the night sky, but I, for one, would rather not deal with the heat and Daylight Savings Time. I like spring and fall best because it is cool out, the nights are longer, and I can get up in the early morning and take in the morning sky while it is still dark. Try that in the summer, get up at 3:00 AM and you have sunrise already lightening up the sky by 4:00AM. I find fall a very peaceful time of the year.

This month we have the monthly club meeting on October 2, Astronomy Day at the Virginia Beach Main Library on the 4th, a [total lunar eclipse](#) at moonset on the 8th (Mid-eclipse occurs at 6:55 AM EDT), Skywatch on the 10th, A Cub Scout event in North Carolina on the 11th, and the East Coast Star Party the 23rd-25th. Not a really busy month but enough to keep us occupied.

Congratulations to the BBAA members who made this year's Boardwalk Astronomy events a hit once again. The BBAA actually held all five events, so that means we earned enough money from the city to fund the full scholarship amount this year. Way to go folks!

Lastly, I want to remind everyone that the BBAA officer elections are held in November. You must be at the meeting and current with your dues to vote. We will take initial nominations for officers at the October meeting and add anyone else who decides to toss their hat in the ring at the November meeting. If you are interested in running for an office please attend and speak up. See you all at the meeting. Until next time....

Jim Tallman

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Product Review: StarSense Autoalign

by Bob Beuerlein

One of the many joys of amateur astronomy is sharing the night sky with curious observers. While this can be done with any telescope, my scope of choice is a computerized GoTo scope; however, the alignment of a GoTo scope, can be a backbreaking and time-consuming ordeal. The Celestron StarSense Autoalign solves both of these problems.

At its heart, the StarSense is a small digital camera that mounts to your telescope like a finderscope. Using “self-alignment technology” the StarSense takes pictures of the sky and compares them to a database to determine where the telescope is pointing. I have had my Celestron StarSense since Jan 20, 2014 and have found that the StarSense lives up to its promises to make most of the set up process for a Celestron computerized telescope fully automated — no user alignment necessary.

The StarSense Autoalign works great on my CPC 800. The camera on the StarSense is sensitive enough to align earlier than I can, with clear skies. As long as I can see two stars, the StarSense will give me the successful “Auto Aligned” message. With darker skies the StarSense has successfully “Auto Aligned” during 50% cloud cover. My first alignment was made under clear skies, 20 ft from a street light, on a snow covered lawn. Talk about light pollution, I could read the manual without additional light!

With the StarSense, you assemble the scope (eyepiece is not necessary), turn it on, set the scope to index marks, enter date, time and location and DST (not required if you have GPS), and select “Auto Alignment”. Within 2 minutes the scope handset reports “StarSense Ready” and you can start your night’s outreach session. During the two minutes, the scope points to three or four locations in the sky. At each location the StarSense camera takes a picture, counts the stars up to 100, and plate solves



Bob Beuerlein's CPC 800 with the Celestron StarSense AutoAlign mounted on the top left. StarSense makes setting up a computerized GoTo telescope a breeze.

for where the scope is pointing. During those two minutes I am usually setting up my eyepieces and getting my dew shield ready, etc. Urban users with obstructed views of the sky can even set up a user mode to bypass blocked areas.

With the current version of the firmware, on my CPC 800 HD, everything is within the center 50% of the field of view (FOV) of my 18mm, 82° eyepiece at 113x (true FOV 0.73°). Or still in the field of view with my 8.8mm 82° at 220x (true FOV .35°). The previous firmware version had a problem centering planets; Celestron took almost a year to fix that problem.

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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/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:

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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 **Oct. 2, 2014** meeting will be held at TCC in Virginia Beach, Building J, Rm JC-13 (or nearby room) at 7:30 PM. Directions available at www.backbayastro.org.

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

September 4, 2014 Meeting Minutes

The September 2014 meeting was called to order at 7:32 PM in room JC-11 of the Science Building at TCC in Virginia Beach, by secretary Leigh Anne Lagoe.

Members in attendance were: Neill Alford, Bob Beuerlein, Kenny Broun, Tom Flatley, Dean Giangregorio, Mary Giangregorio, Bill Holmes, Amy Johnson, John Johnson, Justin Johnson, Jeff Klein, Leigh Anne Lagoe, Benito Loyola, Matt McLaughlin, Bruce Powers, Joey Quinn, Melvin Spruill Jr., and Bird Taylor.

Guests in attendance were: Chris Aubright, Tiffany Ramos, and Moira Wiora.

Outreach Report:

- The 9/6 event "Observe the Moon Night" at the

Princess Anne Library, and the 9/8 event "Walk Under the Moon" in Portsmouth, were both cancelled due to a lack of members signing up to participate.

- 10/1 - Moonwatch at TCC Library at 7:00 pm. Please see the Night Sky Network event page online for details.
- 10/2 BBAA Monthly meeting at TCC Virginia Beach at 7:30 pm.
- 10/10 - Skywatch at Northwest River Park
- 10/11 - VLM Star Party at the Virginia Living Museum
- 10/17 - VPAS observing at the GAP
- 10/23-25 - East Coast Star Party in Coinjock, NC

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September Meeting Minutes, continued from [page 2](#)

Observing Reports:

- Bird Taylor attempted to observe the Lunar “X” on Sept. 1, 2014 but was too late.

New Night Sky Network (NSN) Toolkit:

- Leigh Anne Lagoe presented the new NSN Toolkit “Exploring the Solar System”. If portions of the kit are used at outreach events, we can log those events as NSN events, which in turn will earn us more free Toolkits. The toolkit included a scale model of the solar system, a large poster of the sun, a poster displaying the positions of the planets, and several activities that can be used for outreach events.

Meeting adjourned at 7:55 pm followed by a

planetarium presentation by Kenny Broun.

Planetarium Show:

- The planetarium show “Dinosaurs at Dusk” followed a father and daughter on a virtual time traveling adventure, exploring the Triassic, Jurassic, and Cretaceous periods. The film covered topics such as continental drift, extinctions, development of flight among different species, and led up to the “last day” of the dinosaurs by an asteroid impact.

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>

StarSense Autoalign, continued from [page 2](#)

The StarSense package consists of the “StarSense Handset with 4 line display”, the StarSense camera, large and small mounting brackets, an allen wrench, camera cover, and manual. You can replace your finder scope with the StarSense camera (I did). First time setup aligns the camera to the scope, just like aligning a finder scope has to be done. The software requires a “up and right” final scope movement to compensate for gear backlash.

StarSense makes outreach a dream! You can have your scope aligned and finding celestial gems quicker than anyone. If the scope gets bumped during a session (yes, it happens) you can be back up and showing the next object in two minutes. It also works with SkySafari and my Bluetooth adapter for remote operation.

The StarSense Autoalign is a new system and is still experiencing growing pains. Some German Equatorial Mounts (GEM) have been having problems. Also, “Auto Align” does not work on a wedge (but manual align does) and all-Star Polar Alignment (ASPA) does not work. So, for ASPA, polar alignment and astrophotography, keep your old handset available. In addition, the manual needs improvement. A new “beta version” of the manual is available now, but even that could be

a lot better. If you are familiar with the standard NexStar handset, the whole menu system has been changed; however, the button layout is the same.

A major next step everyone is asking about on the online user forums, is “will StarSense ever be able to be used as a guide scope?” The current answer is that the hardware is not compatible with the resolution required for a guide scope.

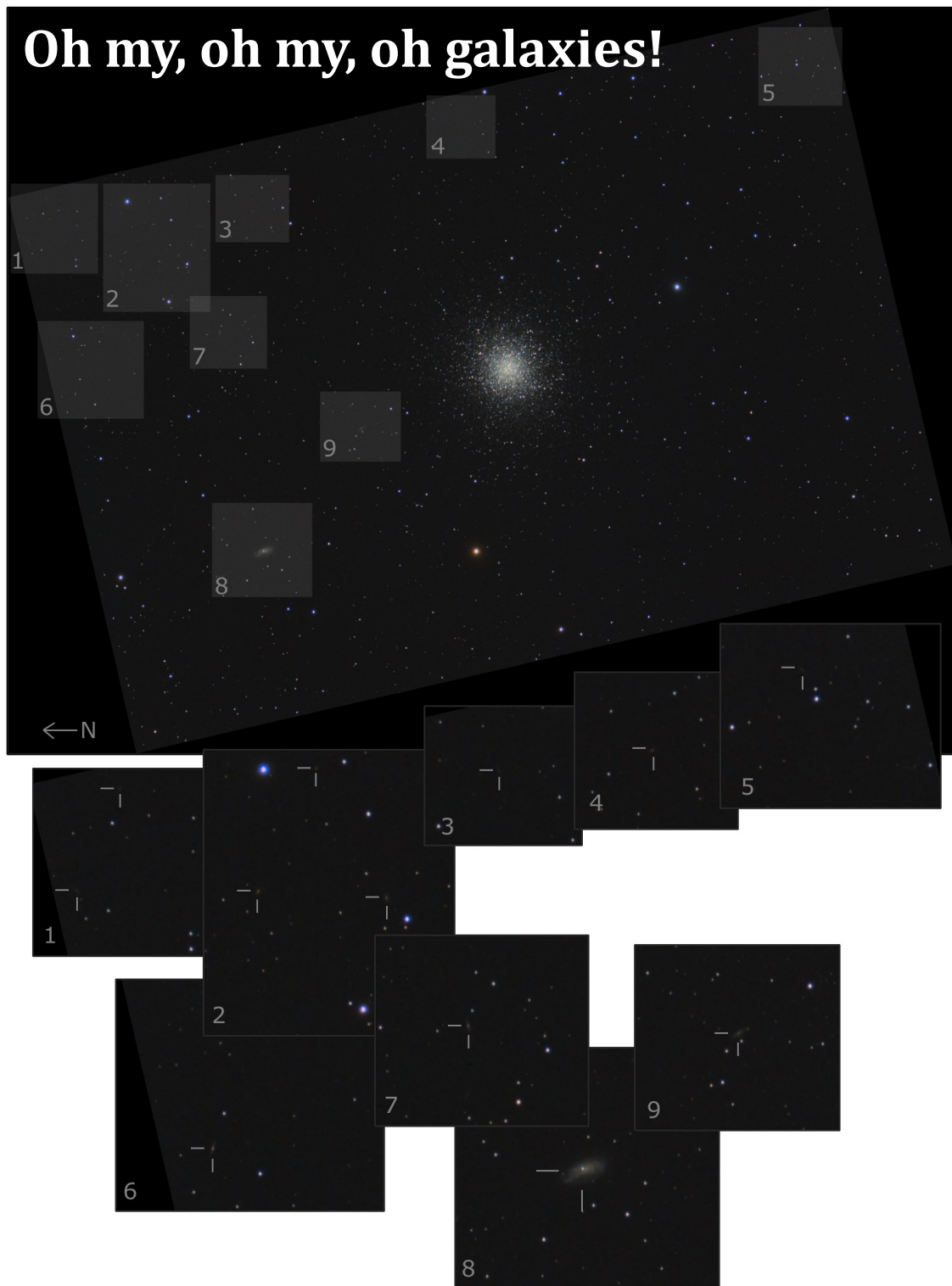
My biggest complaint, has to be the glacially slow fixes coming from Celestron. While the main feature of the StarSense auto alignment works great, the fine points like wedge support, All-Star Polar Alignment, and a helpful user’s manual seems to have fallen by the wayside and Celestron seems to be in no hurry to get them fixed. There is a forum, TeamCelestron (<http://teamcelestron.com>), where problems and feature requests are discussed. This is where I go for the latest updates and to track progress on existing bugs.

Still, I love my StarSense and enjoy using it every opportunity I can. If you’re ever at an event with me, stop by and I’ll be glad to give you a demonstration.

Wishing everyone Clear Dark Skies....

Bob Beuerlein

Oh my, oh my, oh galaxies!



There are a surprising number of galaxies in this image of the Hercules Cluster (**M13**), taken by **Jason Tackett** at the 2014 Spring East Coast Star Party. Aside from **NGC 6207** (panel 8) which is visible from dark skies in most backyard telescopes, the remaining galaxies were so faint that Jason could not find them in any atlases or software that he typically uses. They are identified, however, as USN and PGC objects in the Second Generation Digitized Sky Survey on wikisky.org (search for M13). Be sure to zoom in on the image and be amazed!

Road Trip Out West

Aliens, Ted, and the Astronomical Wonders of the Southwest

By Nick Anderson



This August over a two and a half week time span, I had a splendid vacation with two of my family members on a road trip covering 21 states!! Some of the highlights included the Roswell UFO Museum, the Very Large Array, a “special observatory” in Sierra Vista, the skies surrounding Tucson with its lighting ordinances, Meteor Crater, the Grand Canyon, Bryce Canyon National Park, the Mollie Kathleen Gold Mine, Pikes Peak, Grand Teton National Park, Yellowstone National Park, Mount Rushmore, and the Willis Tower. Of course this is more than enough to cover for a newsletter article, so I’ll focus on the aspects of the trip related to astronomy.

The first trip mark in the Four Corners states was the experience of Roswell, NM and its “out-of-this-world” culture. There are aliens depicted all around town, even the hotels! For those not familiar with Roswell, it is famous for being near the site of an alleged UFO crash in 1947 that was supposedly covered up by the United States Air Force. We took a tour of the UFO museum there, where the parking lot was delightfully marked with a “UFO parking only” sign.

I came in trying to take everything in as objectively as I could, but nonetheless, there were a few things said that just seemed like a slap in the face to science. For example, regarding the problem of aliens having to travel large distances to reach us, their explanation is simply that the

aliens must be hiding in our own solar system! My favorite part of the museum? IFOs: identified flying objects! This included weird exposures (including that of the Moon or a bright planet), objects purposefully suspended in the air, lenticular clouds, or even just a hubcap thrown in the air!

As we were running ahead of schedule, the same day we made an impromptu stop to the famous [Very Large Array](#) (VLA), also in New Mexico. The VLA features 27 independent radio telescopes, each with a dish 25 meters across. Individually, the 100-meter Green Bank Telescope (GBT) in West Virginia easily dwarfs each dish, but all of them can combine to form an array (via [interferometry](#)) with the same resolving power equivalent to a telescope with a 22-mile diameter! The dishes can be positioned into four different setups by slowly transporting them across an on-site Y-shaped arrangement of railroad tracks. In fact, many of the radio images from the VLA are actually composites of the four different configurations. The picture featured above shows it in its closest configuration. The furthest configuration would have them spread across a 13-mile diameter!

I was surprised how minimalistic the security was at the VLA (even though it wasn’t a weekday). Had I really desired, I could have easily walked up to and tried climbing one of the dishes there (no, this was clearly

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marked as illegal). The only real pitfall of our stop there was that I lost my phone! At least I did turn it off. That would be terrible if I lost it and left it on while its battery slowly drained the next few days! The VLA would be able to detect the signal from such a device as far away as the orbit of Jupiter!

Over in the Grand Canyon State, I got to spend three days in the Tucson area. This culminated with a venture over to Sierra Vista to visit our own honorary BBAA member and original Master Observer of the club, Ted Forte, who retired there in 2012. Speaking on the phone beforehand, Ted told me to meet him at the front of his driveway. I soon realized that “driveway” meant by the mailboxes only within shouting distance of his place, at the apex of a dirt road with two washes (for flood waters from the monsoons). Easy to see how one’s car could get carried away through such a place like that, which is far from unheard of, much to the frustration of rescue workers.

Ted gave me a nice daytime tour of his 30-inch observatory as well as the Patterson Observatory in the town’s center. His observatory was a lot larger than I expected, actually designed for two telescopes. In the

distance to the south, several of the mountains visible are beyond the Mexico border. There isn’t an actual physical border there, but it isn’t recommended to walk across!

Though I wasn’t around to observe from the 30-inch that night, the monsoon clouds remarkably did clear up and, in just my 8-inch scope, I was treated to the luxurious view of several challenge objects in and around Sagittarius and the Sculptor Group. An observing report of this can be found on the BBAA Yahoo Group:

<http://yhoo.it/1xzIVjK>

The final highlight I’ll mention here: the Grand Canyon! For those that have never been, this is quite a sight to behold! Almost like a sensory overload that just never gets old. Ultimately we decided to stay another day and explore it some more. No regrets there! My favorite part was the lack of “idiot barriers” once you get away from the highlighted areas. It’s simply implied that the “death penalty” is in effect here. I even took a video showing my feet dangling on an open ledge over a several-thousand-foot drop.



Left: Meteor Crater, the best-preserved meteor impact crater in the world. It looks much larger in person!

Right: Astronomy binoculars aren't just for the nighttime! Here we have BBAA member Nick Anderson looking out at the Grand Canyon with 10x50 binoculars. Relative to other travel expenses, binoculars are perhaps the most underrated thing that one could bring to a place such as this! Surprisingly though, over his two-day stop at the world-renown marvel, he never noticed anyone else with binoculars, only a wide variety of languages.



October 2014

BBAA Events	Special Outreach	Astronomical Events
10/02 BBAA Monthly Meeting	10/1 Moonwatch Outreach Event at the Joint Use Library	
		10/08 Full Moon & Pre-
10/10 Skywatch @ Northwest River Park	10/11 Cub Scout Outreach Event, Gatesville, NC	10/15 Last Quarter Moon
	10/16 STEM & M Night at Greenbrier Intermediate School	10/23 New Moon & Partial Solar Eclipse
10/25 Nightwatch @ Chippokes Plantation	10/23-25 East Coast Star Party, Coinjock, NC	10/30 First Quarter Moon



Sneak Peek into November

Thu 11/06/2014 BBAA Monthly Meeting, Tidewater Community College, 7:30 pm
 Fri 11/07/2014 Garden Stars at Norfolk Botanical Gardens, 7:00 pm
 Fri 11/14/2014 Skywatch at Northwest River Park
 Sat 11/22/2014 Nightwatch at Chippokes State Park, Surry VA.