



BACK BAY observer

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

EPHEMERALS october 2009

11/04/2009
Bayside Library
Virginia Beach

11/05/2009
BBAA Monthly Meeting
TCC Virginia Beach
Building J, Room JC-16
7:30 PM

11/06/2009
Skywatch
NWRP

11/14/2009
Nightwatch
Chippokes

11/20/2009
Garden Stars
Norfolk Botanical Gardens
Dusk



is december 19th.
sign up on at the yahoo group!!!

Looking Up!

Well the party's over and once again Kent's East Coast Star Party biannual event was a success despite a last minute drop in attendance. Too bad, the skies allowed for some good views for the few of us able to get down there on Wednesday or Thursday. Now I know why I retired together with fellow members Cliff Hedgepeth and Mark Ost. We had a double star festival in the midst of the cedars on those nights. Planetary nebulae and galaxies were also fun as the skies were quite steady. It was not so on Friday and Saturday nights, but Kent's nightly wine and cheese bar plus the usual great picnic made up for the poor skies. The club really appreciates Kent's efforts together with all the special dinners and dishes from ex-officio members like Roy and Dee. Thanks again to Barbara and Kevin for the acoustics and the brownies and BBQ dogs. Ohhhh those four chocolate brownies! I only ate one... Ha!

Jeff and Greta from Camera Concepts stopped by after attending the MASP and were welcomed as always. Jeff sure gives great deals plus a try before you buy policy is much appreciated. The Halloween costume contest was fun once more and thanks to those you decided to dress up and poke fun at everyone and thing.

This message marks my eleventh message to the club and only one more to go. I hope you give our

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Staring at Lightning

There's something mesmerizing about watching a thunderstorm. You stare at the dark, dramatic clouds waiting for split-second bursts of brilliant light — intricate bolts of lightning spidering across the sky. Look away at the wrong time and (FLASH!) you miss it.

Lightning is much more than just a beautiful spectacle, though. It's a window into the heart of the storm, and it could even provide clues about climate change.earth_lightningThe

Strong vertical motions within a storm cloud help generate the electricity that powers lightning. These updrafts are caused when warm, moist air rises. Because warmth and lightning are inextricably connected, tracking long-term changes in lightning frequency could reveal the progress of climate change.

It's one of many reasons why scientists want to keep an unwavering eye on lightning. The best way to do that? With a satellite 35,800 km overhead.

At that altitude, satellites orbit at just the right speed to remain over one spot on the Earth's surface while the planet rotates around its axis — a "geostationary" orbit. NASA and NOAA scientists are working on an advanced lightning sensor called the Geostationary Lightning Mapper (GLM) that will fly onboard the next generation geostationary operational environmental satellite, called GOES-R, slated to launch around 2015.

"GLM will give us a constant, eye-in-the-sky view of lightning over a wide portion of the Earth," says Steven Goodman, NOAA chief scientist for GOES-R at NASA's Goddard Space Flight Center. Once GLM sensors are flying on GOES-R and its sister GOES-S, that view will extend 18,000 km from New Zealand, east across the Pacific Ocean, across the Americas, and to Africa's western coast.

With this hemisphere-scale view, scientists will gather an unprecedented amount of data on how lightning varies from place to place, year to year, and even decade to decade. Existing lightning sensors are either on the ground — which limits their geographic range — or on satellites that orbit much closer to Earth. These satellites circle the Earth every 90 minutes or so, quickly passing over

any one area, which can leave some awkward gaps in the data.

Goodman explains: "Low-Earth orbit satellites observe a location such as Florida for only a minute at a time. Many of these storms occur in the late afternoon, and if the satellite's not overhead at that time, you're going to miss it."

GLM, on the other hand, won't miss a thing. Indeed, in just two weeks of observations, GLM is expected gather more data than NASA's two low-Earth orbiting research sensors did in 10+ years.

The new data will have many uses beyond understanding climate change. For example, wherever lightning flashes are abundant, scientists can warn aircraft pilots of strong turbulence. The data may also offer new insights into the evolution of storms and prompt improvements in severe weather forecasting.

Staring at (FLASH!) Did you miss another one? The time has come for GLM.

Want to know how to build a weather satellite? Check the "how to" booklet at scijinks.gov/weather/technology/build_satellite.



The Geostationary Lightning Mapper (GLM) on the next generation of GOES satellites will detect the very rapid and transient bursts of light produced by lightning at near-infrared wavelengths. This image was taken from the International Space Station and shows the Aurora Australis and lightning.

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

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 November meeting will take place at TCC VB in Building J, Room JC-16 at 7:30 PM.** Directions available at www.backbayastro.org.

BBAA Internet Links

BBAA Web Site
www.backbayastro.org

Yahoo! Group
groups.yahoo.com/group/backbayastro

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

NOMINATIONS

Mark Gerlach - Nominated For The Position Of President.

Courtney Flonta - Nominated For The Position of Vice President.

George Reynolds - Nominated For The Position of Secretary.

Treasurer - The Office Of Treasurer is open. No nominations have so far been tendered.

Looking Up! Continued from page 1

new leadership the support you have given to me. I know you will as we truly have a vigorous club life and a real purpose in "bringing astronomy to the people of Hampton Roads".

The Fall Star Party in Chiefland beckons once again this year from Nov. 9-15. It's time to take out the heavy weapons for star gazing. Some of you will be there too and I will send a report on the activities in the interim. Also expect a video report from Dale at a future meeting to enjoy.

I hope to see all of you doing your astro thing this month...

Clear Skies,

Doc Bruce

Doc Bruce

Fall 2009 East Coast Star Party *CJ Wood*

Wow! What a time! As always and never fails, Kent has pulled off another wonderful star party. Amazing what all happens there in that small observing field. It's always a unique experience! Weather was great with a sudden shower popping in on us briefly on Saturday night. We were all able to observe every night during the event. Many star parties don't end up that way. Poor Mid-Atlantic Star Party got dumped on during new moon. Kent's decision to have the star party a week after new moon was a blessing in disguise! Here's my long write up of the event.

Wednesday: After getting 4 hours of disturbed sleep I woke up at 5am to get to work to unload a freezer truck from 6am-2pm that day. After work I was able to leave to Coinjock, NC at 4pm, arriving just after 9:30pm. I was one of several of the die hards to come early to cheat the upcoming "weather". Skies were dark and pretty without a cloud in the sky. I unfortunately had a mirror cell issue that I had to fix in the dark. At midnight I was able to start observing after unpacking and fixing my problem. Transparency wasn't bad and seeing was so-so. I was exhausted and my body quit on me around 3:30am. I only logged several new objects this night. Which is a shame, I wish I could have taken advantage of the cloudless skies which I don't think I've ever had at Coinjock. Below are the highlights of the night.

Abell 82: Wow this PN is amazing. How have I failed to find this before? It's detectable without a filter and bright with one, responds well. Quite large with irregular shape and brightness. There's bright knots in the nebula, brightest is above left center. I can glimpse the central star unfiltered. There's an asterism that points right to this PN.

Abell 84: Large, almost round. Faint unfiltered but bright with. Responds slightly better with an OIII than Ultrablock. Surface is irregular in brightness. It's brighter at the top. The PN sits on top of a bright star, I think it might be involved. 2 interesting hook asterisms are in the area. It sits just to the left of one.

MCG 5-55-38: I was looking for this MCG galaxy earlier when I stumbled on a very bright, wonderful galaxy. I could have sworn it was too bright and too large to be this galaxy but I was wrong! After about a half an hour of Kent

and I searching for this object he yelled "Oh! It's UGC 12667!" when I looked it up it came up as this MCG! This galaxy is bright enough to be an NGC. It's fairly small but with surface detail. Elongated, surface seems irregular being brighter to the left center. Fainter galaxy Arp 46 sits on top of it.



Arp 46: Small, elongated, quite faint but high surface for it's magnitude. I can see it with direct vision. Sits on top of bright galaxy MCG 5-55-38.

Thursday: Thursday was a nice day. Hot but pleasant. Not many people came that day unfortunately. It was a good social day with the small gang. Camera Concepts had finished setting up shop around noon and we all crowded his tents. I ended up picking up a book I already had! So instead I returned it and picked up an H-Beta filter. I may not have a lot of use for it but at least I can a tually see the horsehead instead

of a dark blob in my eyepiece. That night we were treated with Dee's cooking of potato soup and shrimp salad sandwiches, mmm mm mm good! While eating we had a beautiful sunset to start the night. The night started off cloudy but soon cleared out nicely. Transparency and seeing were decent. I was able to log

29 new objects, most being small galaxy clusters around Pegasus, Andromeda, and Taurus. Below are the highlights.

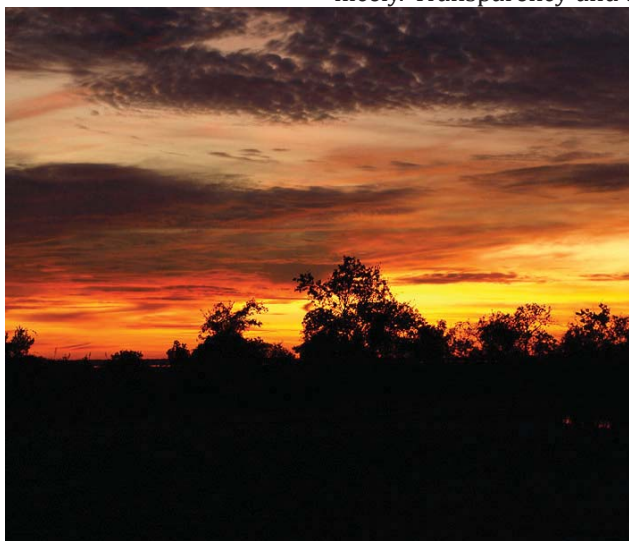
NGC1015: Medium-large, bright, elongated. Bright core in the center with a variable surface since there's most likely spiral arms in the galaxy. I just can't see them defined. What brought me to look at this galaxy tonight was the nova SN 2009ig that I can see about 3-3:30 from the core.

NGC1587: Small, bright, elongated. High surface brightness. Interacts with fainter and smaller galaxy NGC1588. Bright galaxy NGC1589 shares the FOV.

NGC21: Bright, small, elongated. I think I see a bar in the surface. A couple small galaxies are in the area. bright almost 7th magnitude star in the FOV.

NGC545: This galaxy is so bright! High surface brightness. It overlaps with galaxy NGC547 which is also bright. Bright core. Elongated. I can see about a half a dozen galaxies in the FOV.

NGC6654: Quite bright, medium sized definite face on spiral galaxy. I can see hints of spiral structure. Strongest arm is on the bottom of the bright core. Surface brightness is pretty low though. Sits just out of the FOV from



a bright naked eye star in Draco. There's several bright string of stars in the FOV.

Vy 2-3: Very small, bright disk. Seen with direct vision, even at 330x. Surface is brighter in the center where I can glimpse the central star. Responds alright with an Ultrablock and very well with an OIII.

Friday: It was a nice morning. It was clear and warm. Again there wasn't many people as usual on a Friday but they did show up later. Several people set up down the "Imager's Row" so the observing field was pretty empty. Later in the day it clouded up and the sky didn't look promising. Although we didn't get very much observing in, we atleast had some of Dee's fantastic spaghetti! There ended up being 2 large breaks before it clouded up for good for the rest of the night. <http://tinyurl.com/yf2gv6t> So we all went to bed early to get a good breakfast in the morning at BJ's Cafe on Saturday. In the 2 nice breaks we had I was able to log 4 new objects, 2 being Abell planetary nebulas.

Abell 2: Medium-small planetary with great annularity. Slightly elongated but not quite an oval. Jet black center. It's bright and visible faintly unfiltered. Responds best with an OIII filter but very mild with an ultrablock. Bright and easy filtered. Sits next to a bright 8th magnitude star.

Abell 5: Large, elongated, very faint patch. Oval shaped, requires averted vision to see it. I can only detect it with my OIII filter. There's a triangle of stars in the FOV that points almost right to it. A faint double star sits just outside of it. I rated the transparency 2/5 because of the passing clouds. I'm viewing this in a giant hole in the sky. The transparency in the whole is about a 3/5. I ran down the other end of the observing field to get Kent Blackwell to confirm this for me but when I came back clouds had took over.

Saturday: It was pretty cloudy in the morning but around noon the clouds started to break up to bring heat radiation to form thunderstorms in the area. There were several nice storms in the area but we never got hit by one though the lightning in the distance got to be a little disturbing. It's amazing how



we only had a small clan of folks during the whole star party event and Saturday swarms come out of nowhere to fill the place. It never fails! Food was delicious! My taste buds were clapping after a plate of Greta's pasta. Door prize drawing was pretty intense, I ended up cashing out with the 8mm Televue Radian donated by Camera Concepts. It made dressing up as a 80s

hairmetal rocker for the costume contest worth it! The night started out cloudy due to a lot of low level sheer passing over from a cellular squall that had just gone offshore right next to us. I carried my telescope in my

trailer as there were some stray showers popping up in the area. Later on the sky cleared off almost completely with some great transparency and seeing. I was convinced enough to set the scope back up again. The hole remained opened for about a half an hour until the sky very quickly clouded up thick with no star light coming through. We all were sitting down by Kent's trailer until someone yelled "Whoa is that right?" Kent said

"Oh no!" so there was a late night scramble with everyone running off to cover their telescopes or take them out of the rain. The rain was coming down pretty good while

I was taking down my scope for the 3rd time that day. The scope got wet but nothing was damaged. Kent came over with some Bounty towels to dab the water spots off the primary mirror, a life saver! It didn't rain long but it was enough to wake you up. I ended up looking at 10 objects. None of them were real showpieces so I'm not going to list my highlights from this night.

Overall, it was another great star party! I got home at about 3pm Sunday.

Looking forward to the spring.



Welcome New Members!
Deepak Talreja
Paula Rosati

November 2009

observers' corner

Ted Forte

A Shooting Star Inn
Flagstaff, AZ



I gave up this fall's East Coast Star Party to spend a week in Arizona. It has been a long time dream of ours to have a get away to an astronomy retreat and we chose Arizona because we have good friends in Phoenix.

Our trip included four nights at the Shooting Star Inn bed and breakfast outside of Flagstaff at an elevation of 8000 feet. The Inn is a charming place run by Tom Taylor, photographer, musician, cook, and accomplished astronomer (previously at Kitt Peak) who is chief cook, bottle-washer, maid, manager, concierge and entertainer all wrapped up in one. We were welcomed with a warm smile and a fine glass of wine. You can't help but be impressed with the building, the host, and the surroundings.

The main attraction of course is the sky and that certainly doesn't disappoint. After my first view of the Milky Way from Shooting Star, I began to doubt that I had ever seen it before. I was dumbstruck, and even more-so when Tom explained that transparency was so poor that he didn't think it worth bothering to observe. He broke out his Miyauchi 20 x 100 binoculars and allowed me to show our friends (who accompanied us to the Inn) and another couple staying there around the sky. It was cold and a little hazy and I reluctantly retreated inside after an hour or so to await a better night.

The wee hours of the next morning, however, brought clearer skies and I grabbed my 10x30IS binoculars and slipped outside. Then I understood. The Milky Way arching overhead was breathtaking. Clumps, rifts, clusters, star clouds, and voids imprinted on a black sky in silent grandeur. As I dark adapted it got even better. M33 was well down in the west and still a rather easy naked eye blotch. M42 seemed to cast a shadow! M41, M46, M35 all

easy without optical aid. Meteors, both Orionids and sporadics, regularly punctuated the view. I wanted so desperately to take it all in that it was difficult to raise the binoculars and limit the vista. Of course it was worth it. I toured every visible Messier down to a zenith angle of about 70 or 80 degrees as well as some NGC clusters without difficulty. The zodiacal light was an obvious bright cone stretching high into the eastern sky. Then, with the first hints of twilight I retreated back to a warm bed, already eager for the next sunset.

That evening was clear, but very windy. Tom took us out to the observatory and lit off the 14-inch f/10 Meade ACF (RC clone) on an Astro-Physics 1200GTO mount. After some checkout he turned it over to me and allowed me to play telescope tour guide. We did the usual showpiece items until the wind got to the less astro-obsessed guests. Tom accompanied the guests back to the fire-warmed lodge and left me to my own devices. After checking out CJ's object IC1470/ BFS17, I did some Abell galaxy groups and Hickson groups, occasionally checking in on some favorites along the way. I had had a long day of hiking and touring and the wind was whipping me even behind the observatory walls, so I gave in a lot earlier than I wanted to but not before extending my life list by several faint galaxies. My final few minutes outside was spent just standing quietly and alone in the dark, surrounded by more splendor than I had ever before experienced.

Patchy clouds and deteriorating health (I was running a slight fever and developing a chest cold) kept me inside on night three. We set alarms for 3:30am and planned to meet outside for some meteor watching, but the sky was soaked in and after a short interval we called it quits. Of course it cleared as soon as I got back into bed, but it was just as well since I needed the rest.

After breakfast, Tom set up his Solar-max 90 and we viewed the sun, which was cooperating by displaying some large prominences. I guess I'll turn my PST into a paperweight now.

On my last night at the Inn, the afternoon clouds cleared just as we finished dinner. We fired up the 14 and observed as

a group (a new couple had joined us) for a few hours. Tom and I took turns suggesting objects to enjoy and we did a decent job of covering all the highlights as well as a few faint fuzzies.

By 10-ish the group reduced down to just me and my new friend from Massachusetts who was getting the astronomy bug (poor devil). We quit early enough to get a few hours rest before attempting some meteor viewing again. This time the 4am sky was clear as could be and the meteor shower was prolific. We saw, perhaps 10 meteors per hour while also touring the sky with the 14 and didn't quit until the approach



of twilight. Even the winter Milky Way is impressive from here; about as bright as the summer Milky Way from a site like Northwest. I tried but could not make out Barnard's Loop naked eye. I'm certain this is the place to do it, but I just don't have the eyes.

The combination of really dark skies, high altitude, and stable air creates an exceptional sky. Most striking is the quality close to the horizon where the loss seems so minimal. There just isn't any muck. And I experienced only the slightest hint of dew ... an uncovered filter fogged a bit and dawn showed some frost on my vehicle, but there was not a hint of a problem on the scope whose exposed corrector pointed up to space would have fogged in minutes in Tidewater. I thought I would be able to bag some objects that are too faint for back home, and I did a bit of that, but the temptation to view the showpieces at their very best was overpowering. Of course everything seemed to look really great, but a few objects were exceptionally good. The list of "best I've ever seen it, really" included NGC 891, The Rosette, NGC 7008, NGC 6888, M76, M22 and NGC 2261 and many more.

Some of you will remember Paul Shankland who was a member of BBAA around the Millennium. He went on to earn a PhD in astronomy and land a billet at the US Naval Observatory in D.C. Now a civilian, Paul is the director of the U.S. Naval Observatory, Flagstaff Station. By the way, for those of you that own a copy of the Observing Handbook and Catalogue of Deep Sky Objects by Luginbuhl and Skiff, you may find it interesting to note that Chris Luginbuhl works for Paul at the station.

We had a nice visit with Paul and got a special tour of the facility. He showed us through the large telescopes including the 1 meter RC reflector which is the largest and last Ritchey-Chretien telescope designed and built by George W. Ritchey. I was especially interested in the coating chamber where they periodically recoat not only their own optics but also service the scopes at Lowell.

Of course you don't go to Flagstaff without visiting Lowell Observatory. We went twice. We visited during the day to get a good look at the 24-inch Clark refractor that Percival Lowell used to study Mars and the 13" astrograph that Clyde Tombaugh used to discover Pluto. It was also cool to see the actual spectrometer that V.M. Slipher used to discover red shifts (the first



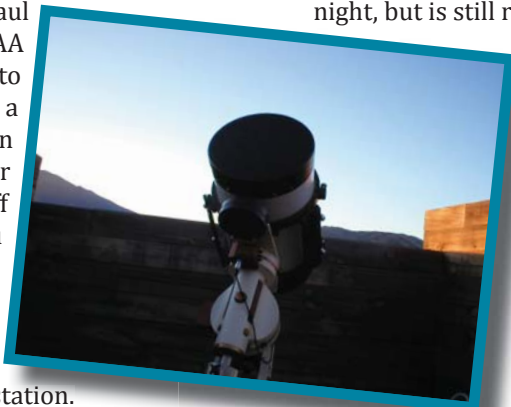
evidence of the expanding universe) and peer into the blink comparator at the discovery images of Pluto. You can see the final resting place of Lowell and view the memorial plaque devoted to S.W. Burnham, author of the Celestial Handbook that many of us cut our teeth

on. I'll bet, like me, some of you contributed to that memorial.



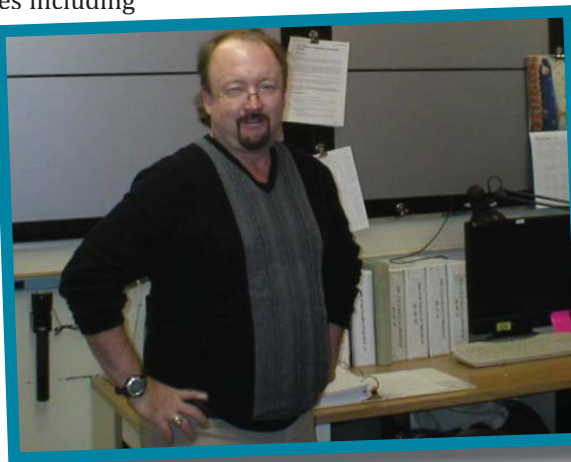
We returned to Lowell at night and viewed Jupiter and then M15 through the 24-inch. We were privileged to view through a brand new 41mm TeleVue Panoptic that I'm told Uncle Al just personally delivered there. It was moving to use such a famous and important telescope, even if the views were rather mediocre. I only wish it were possible to use the same ocular Lowell used, and I'd love to see Mars through it. How cool would that be? Down the

hill, a volunteer was operating a 16-inch Discovery Dob, showing folks the Andromeda galaxy and M57. It was fun to walk around the observatory grounds under clear skies, and in pleasant temperatures. Below, the city of Flagstaff (the world's first dark sky city) is getting brighter each night, but is still reasonably subdued.



I think our next trip to the southwest could be a house-hunting trip. I'm meant to live there. I know it!

Oh yeah, they have other cool stuff beside stars like the Grand Canyon, Meteor Crater, Walnut Canyon, Sliding Rock, Red Rocks, Sedona ... and we did all of that too.





BACK BAY ***observer***

November 2009

BBAA Events	Special Outreach	Astronomical Events
		02 Full Moon
	04 Bayside Library	
05 BBAA Monthly Meeting		
06 Skywatch at NWRP		
		09 Last Quarter
14 Nightwatch at Chippokes		
		16 New Moon
20 Garden Stars (Norfolk)		
		24 First Quarter

Sneak Peak into December:

12/02 Bayside Library

12/03 BBAA Meeting at TCC VB

12/04 Garden Stars at Norfolk Botanical Gardens

12/11 Skywatch at NWRP

12/19 Nightwatch at Chippokes

12/19 BBAA Anniversary Luncheon

