



## EPHEMERALS - OCTOBER 2007

DATE	WHEN	WHAT & WHERE
4	7:30p	BBAA Meeting @ TCC in Virginia Beach
5	Dusk	Skywatch @ NWRP Equestrian Area
6	8:00a	VAAS @ 10066 Rogues Road (Rt. 602) Midland, VA
6	Dusk	Cloverwatch @ Franklin Fairgrounds
13	Dusk	Nightwatch @ Chippokes Plantation
20	7:30p	Garden Stars @ Norfolk Botanical Gardens
20	Dusk	Cub Scouts @ North Landing Beach Riverfront Resort
20	Dusk	Girl Scouts @ Franklin Fairgrounds

## LOOKING UP

Very scary things happen in October. It gets dark 'eerily', Halloween goblins and ghouls take over the streets, and I will serve my first full month as da pres. The few days we did get out this summer we complained about the bugs. In just a few weeks it will be time to start complaining about the cold. I swear, if we could harvest our belly-aching, we could build a machine to blow the clouds away.

Far scarier than trick-or-treats are the rapidly approaching BBAA elections! Barb has been Treasurer and Chuck has been Secretary for two consecutive years. I was VP for the past two years (less about 3 months) also. In accordance with The CONSTITUTION of the BACK BAY AMATEUR ASTRONOMERS, ARTICLE VI, Section 4, none of us may remain in our current office for another term. I cannot speak for Chuck, but as for Barb and I, we need a break. We cannot accept any nominations for 2008. Perhaps we will jump back into the fracas in 2009 or 2010 (can you believe it is almost 2010)! Your Club Needs You! Step up and run, get your nominations in and vote!

## CONTENTS

Ephemerals	1
Looking Up	1
August Meeting Minutes	2
NASA Space Place	3
BBAA INFO	4
Start Saving Your Pennies	5
Observer's Corner	6
Reaching Out	7
X-Pres	7
Night Sky Guides	7
October Calendar	8

This month there are a few noteworthy events. October 5 at 07:44 the Moon and Beehive are 49' apart, 7th at midnight the Moon and Venus are 2.7° apart and if you need a good daytime challenge, at 09:36 the Moon and Saturn 1.5° apart. On the 9th just after midnight the Draconids peak and on the 12th, at 21:50 the Moon and Mercury will be 1.8° apart. On the 21st, at 02:14 the Moon and Neptune will be 1.4° apart.

Other events:

- Oct 22 20:30 Moon and Uranus 55' apart
- Oct 27 18:52 Moon occults Pleiades, Entry, Sep=+00°16'39", Alt=-2°
- Oct 27 19:11 Moon occults Pleiades, Mid-occultation, Sep=+00°08'12", Alt=1°
- Oct 27 19:32 Moon occults Pleiades, Exit, Sep=+00°16'39", Alt=4°

And, of course, lest we forget: Kent's East Coast Star Party (Coinjock, NC) is November 9 & 10 - The Cure for the common Star Party!

Keep Looking Up!

*Kevin Weiner*

# THE BACK BAY AMATEUR ASTRONOMER'S OBSERVER

## WHAT IN THE BLAZES HAPPENED?

On Friday August 31st 2007, Dale Carey resigned as President of the Back Bay Amateur Astronomers concerning matters dealing with the BBAA Scholarship Committee.

In accordance with Article VI section 3 of The Constitution of the Back Bay Amateur Astronomers, The Vice President, Kevin Weiner, assumed the duties of President.

In accordance with the BBAA Constitution, Kevin will hold both positions through the end of the year. A new President will be selected during the regularly scheduled elections in November.

*Chuck Jagow*

## SEPTEMBER'S MEETING MINUTES

The September meeting of the Back Bay Amateur Astronomers was called to order by President Kevin Weiner on Thursday September 6th, 2007 at 7:30 PM at the Virginia Beach Tidewater Community College Campus.

**Members in Attendance:** There were 27 people in attendance at the September meeting. This included 22 regular members, one brand new member ( WELCOME BILL MCLEAN ), our guest speaker Dr. Danny Faulkner and guests Rick, Jim and Roxanne. Members in attendance were: Neill Alford, Rick Bish, Dr. Bruce Bodner, Professor Kenny Broun, Gerry Carver, Ted Forte, Jay Garrard, David Hedrick, Chuck Jagow, Georgie June, James Kresky, Ben Loyola, Matt McLaughlin, Cecil Nichols, Mike Pereira, Mike Przytula, George Reynolds, Chuck Rippel, Rob Schonk, Kevin Swann, Barbara Weiner and Kevin Weiner.

**Treasurer's Report:** Treasurer Barbara Weiner reported that we have \$3,901.75 total of which \$1,493.30 exists in the BBAA Scholarship fund, leaving \$2,408.75 for club operations.

**Secretary's Report:** Secretary Chuck Jagow re-

ported that the club membership is at 92 members of which there were about 6 delinquent members needing to pay their dues. The reading of the July minutes were waived, as they generally are, because they are posted on the Internet.

**Astronomical League Correspondent's Report:** Georgie June presented Chuck Rippel with his award for completing the requirements for the Lunar Club, be it known that Chuck is officially and forever proclaimed a Lunatic. Georgie indicated that Cliff Hedgepeth is close to completing the requirements for the Master Observer's Award.

**Old Business:** There was no old business brought up.

**New Business:** There was no new business brought up.

**Rapid Response Robotic Telescope Project Report:** Ted Forte reported that the telescope has not yet been installed.

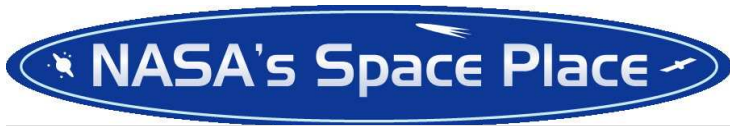
**Observer's Corner:** Kevin Weiner and Bruce Bodner spoke of the new Garden Stars venue and how nice it was, and also of the new tradition of dinner at Franco's prior to the event.

Several folks ventured to Cornland to view & image the lunar eclipse which member Dave Hedricks made an impressive animation sequence from images taken with his ETX 60.

**Presentation:** The evening's presentation was provided by Dr. Danny Faulkner on eclipsing binary stars. Dr. Faulkner provided a very professional presentation that was both very informative and extremely interesting showing how they can calculate the actual sizes of stars. Interest was high, as evidenced by the number of questions raised.

**In Conclusion:** The meeting was adjourned at 9:23 PM.

*Chuck Jagow*



## A Missile in Your Eye!

by Patrick L. Barry

Satellite technology designed to catch ballistic missile launches may soon help doctors monitor the health of people's eyes. For the last 15 years, Greg Bearman and his colleagues at JPL have been working on a novel design for a spectrometer, a special kind of camera often used on satellites and spacecraft. Rather than snapping a simple picture, spectrometers measure the spectrum of wavelengths in the light coming from a scene. From that information, scientists can learn things about the physical properties of objects in the photo, be they stars or distant planets or vegetation on Earth's surface. In this case, however, the challenge was to capture snapshots of short-lived events—like missile launches! The team of JPL scientists designed the new spectrometer, called a computed tomographic imaging spectrometer (CTIS), in collaboration with the Ballistic Missile Defense Organization as a way to detect missiles by the spectral signatures of their exhaust.

But now the scientists are pointing CTIS at another fast-moving scene: the retina of an eye. Blood flowing through the retina has a different spectral signature when it is rich in oxygen than when it is oxygen deprived. So eye doctors can

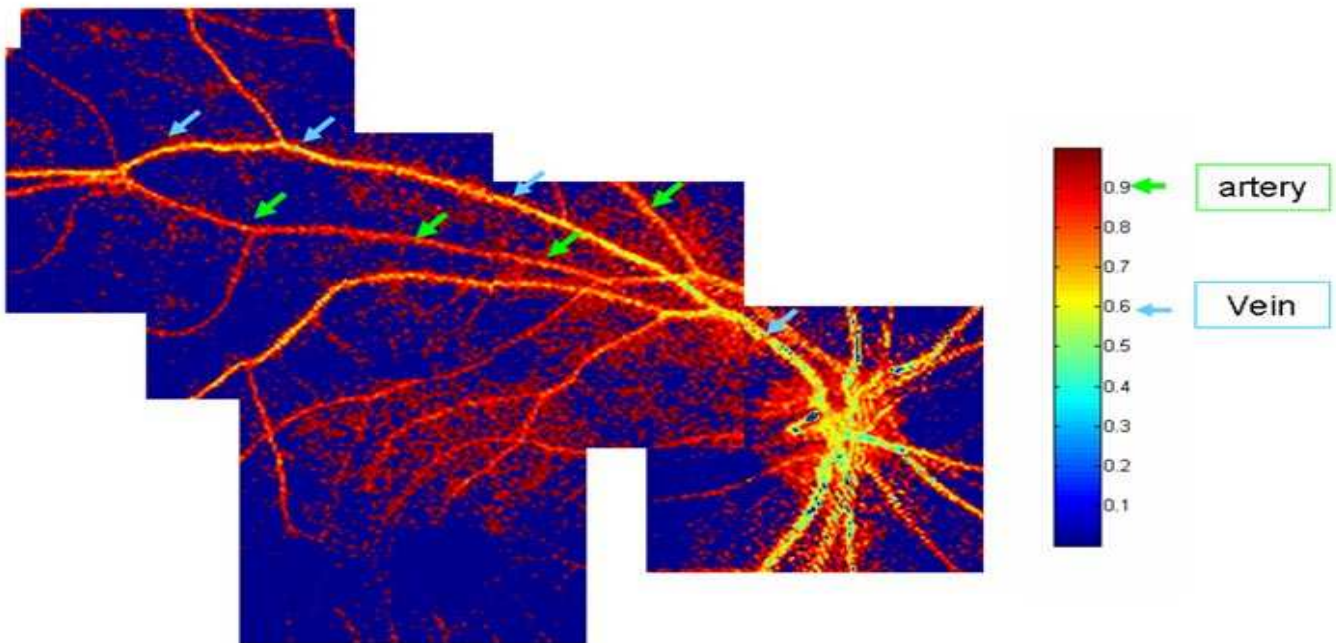
use a spectrometer to look for low oxygen in the retina—an indicator of disease. However, because the eye is constantly moving, images produced by conventional spectrometers would have motion blurring that is difficult to correct. The spectrometer that Bearman helped to develop is different: It can capture the whole retina and its spectral information in a single snapshot as quick as 3 milliseconds. "We needed something fast," says Bearman, and this spectrometer is "missile-quick."

CTIS is even relatively cheap to build, consisting of standard camera lenses and a custom, etched, transparent sheet called a grating. "With the exception of the grating, we bought everything on Amazon," he says. The grating was custom-designed at JPL. It has a pattern of microscopic steps on its surface that split incoming light into 25 separate images arranged in a 5 by 5 grid. The center image in the grid shows the scene undistorted, but colors in the surrounding images are slightly "smeared" apart, as if the light had passed through a prism. This separation of colors reveals the light's spectrum for each pixel in the image.

"We're conducting clinical trials now," says Bearman. If all goes well, anti-missile technology may soon be catching eye problems before they have a chance to get off the ground.

### Image Caption:

*This three-color composite image from the computed tomographic imaging spectrometer shows the oxygenation of the blood in the arteries and veins of a human retina. (Arteries appear red, veins appear yellow.)*



# THE BACK BAY AMATEUR ASTRONOMER'S OBSERVER

## BBAA INFO

The BBAA meet the first Thursday of every month. While school is in session we meet at the VA Beach TCC campus in the Pungo building. The September meeting will be on Thursday September 6th at 7:30 PM at the VA Beach TCC campus in the Pungo building in the Astronomy classroom.

## WHERE IS THE MEETING?

### TIDEWATER COMMUNITY COLLEGE CAMPUS

The TCC Campus is located in Virginia Beach off of Princess Anne road. The following should help you locate the campus.

FROM Interstate I-64:

Proceed to the I64 / I264 junction and take I264 East .  
Take the S. Independence Exit, 17A, right hand lane  
(.000000048134 AU).

Turn LEFT onto Princess Anne road  
(.000000010322 AU).

Turn LEFT onto Community College Place  
(.000000002131 AU).

At the Stop Sign turn right and follow the road around to the left and park in one of the parking lots.

The meeting is held in the Pungo Building which is on the right hand side of the pathway that splits the two major parking lots. The Astronomy classroom is in the far back right hand corner of the building.

### COX COMMUNICATIONS CAMPUS

The COX Communications Campus is located in Chesapeake's Greenbrier section. The following should help you locate the facility.

FROM Interstate I-64:

Take exit 289B (between the Indian River & Battlefield exits).  
South on Greenbrier Parkway (.7382 miles).  
Turn RIGHT onto Eden Way West (.9231 miles).  
Turn RIGHT on Crossways Blvd (.88901 miles).  
Turn Right into the Cox Campus

The meeting is usually held in the Silver room located on the North side of the facility. Enter and tell the guard that you are with the BBAA and they will issue a badge and direct you to the room.

## BBAA INTERNET LINKS

### BBAA WEB SITE

<http://groups.hamptonroads.com/bbaa/>

### YAHOO GROUP

<http://groups.yahoo.com/group/backbayastro>

### BBAA OBSERVER NEWSLETTER

<http://www.backbayastro.org/newsletters/newsletter.shtml>

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What do you want to do?

## OBSERVER INFO

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 September for the October issue. Please submit all items to:

[ObserverBBAA@cox.net](mailto:ObserverBBAA@cox.net) / [chuck@jagowds.com](mailto:chuck@jagowds.com)

OR

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

## Start Saving Your Pennies

Just got back from Stellafane where Al Nagler was showing prototypes of the new Ethos eyepiece. I met the optical designer, Paul Dellechiaie, and found that we had unknowingly been setting up next to his usual campsite at Stellafane for several years -- Just another Stellafaner so far as we knew. They were showing two of the five initial prototypes with Televue 4-inch refractors. Both of the prototypes were identical in optical configuration -- And they said that was also the optical design for production. Only one of the two was the final mechanical configuration. But the differences were very minor -- The largest difference pointed out was that the Nagler-style rubber eyecup is easier to flip up on the final version because a shoulder in the metal directly under the eyecup was eliminated. The barrel is both 2 inch and 1-1/4.

Approaching this eyepiece for the first time, I wondered how the full 100-degree field could somehow appear 15 mm away, more than half an inch, per the Televue press release. I couldn't measure that, of course, although part of the field did become visible at maybe a finger-width away. So I ventured closer. Finally, with my eyebrow in contact with the rubber eyecup, I saw part of the very wide field stop. Careful positioning of my eye was necessary to see the entire field. With my eye centered, I found that when the unfolded eyecup touched above and below my eye, the entire field was just visible. Pushing in a bit closer than that made the field start to disappear from the center outward. So there appears to be a pretty small sweet spot for seeing everything with this one. I did not try eyeglasses, but those who must wear them for observing may well have difficulty in getting their money's worth from this eyepiece. But the view is quite a spectacle -- Sorry, couldn't resist that one.

One of my reference books describes simulating the view through wide field eyepieces by looking through lengths of cardboard tubing, cut from paper towel or toilet paper rolls -- the shorter the length of tube, the wider the field seen when looking through it. But that simulation fails completely with this eyepiece. Instead, for the Ethos, try looking through a hole in a thin flat plate. I thought the field was actually wider

than 100 degrees, but Paul D. said it had been measured.

One might think that another 18 degrees added to the field of an 82-degree Nagler wouldn't make that much of a difference. After all, that's just 9 degrees in every field direction. But Al pointed out that with that increase, the field area increases by over 50%. Maybe Al was being modest -- It's fairly easy to calculate that for a flat field, the increased area is very nearly 88%! That correlates much closer to my perceived WOW-factor. Or, considered another way, the field with the Ethos is about the same as a Nagler 16 mm, but with the magnification of a 13 mm. It is a considerable improvement in FOV over Naglers -- The peripheral view when looking straight ahead is nearly all you can possibly see.

My first night time view was on Jupiter through Paul D's telescope. As I slewed the image of the planet and four moons back and forth from side to side across the field, I saw no obvious change in colors on/around the planet, and no change in relative spacing between the moons. The circular shape of the planet did not noticeably change.

Al provided a view of the M24 star cloud in the Milky Way. Stars covered the field as far as I could see in every direction, and the field stop was barely detectable against the dark sky. Stars were almost perfect pinpoints out to the field edge, very similar to current Naglers. That view was stunning. Naglers were supposed to be the "space-walk experience". This is far better.

Paul D. couldn't tell me much about what's to come, although he did confirm that this is just the start of a new series. He couldn't say whether the design came from an incremental improvement over Naglers, or if it was totally new, and I still have no clue how many optical elements are in the eyepiece. He did say that the effort involved in developing the optical design was less than that involved in coming up with the name, Ethos. And he is very proud of his creation. Both Paul and Al said availability was early Fall. Stellafane even gave away one as a raffle prize, to be delivered.

*Roy Diffrient*

## The Observer's Corner

**Sep-09-07** The group that went to Chippokes were treated to clear skies for the entire duration (Chuck and I left at ~ 2:30, Dale, a few minutes before us.). Seeing was pretty decent, I would estimate 4/5.

Transparency was not quite as good as I've seen here, I believe due to the higher humidity. About 9 pm it was in the low 70's, at midnight, Bruce measured ~ 68F, and we could all see our breath (we were at 90% RH and ~ 3 deg F from the dew point.) Lots of people were using their heaters, I had a little problem with eps, and my finder, but the XT8i was fine.

Present were Chuck (C5), Dale, Dr. Bruce, and 3 new members, Bill & Rebecca, and Bob. There was a lot of new hardware in use. Dale had a nice refractor rig with Sky Commander digital setting circles, Bruce had a new Celestron SCT (Sorry Bruce, what diameter?), and Chuck's new portable rig had a 6" Celestron OTA. He said it was a cat, but I can't find the model. (Guys, what did you guys have?).

Dale also has a new ride, a used Pathfinder. My goal was to observe, and the XT8i didn't disappoint. Dale loaned me two of his spare Naglers (13mm & 9mm) and I loved them! My plan was to work well-placed Messiers to the South that I hadn't observed before, and I started that program with M75 and M29. The former was quite compact, the latter I've dubbed, "the Pi cluster", due to the pattern I discerned.

The program was then changed when Dale said he was looking at Neptune. I'd never seen it - and it appeared to be a miniature of Uranus, at 270x it was a featureless pale blue disk. Then I looked at Uranus, at the same magnification it was a nice blue disk, featureless, but still a nice view. Continuing the blue object emphasis, (and Dale's lead) we then looked at NGC7662, the Blue Snowball. I had viewed it once, with my little Celestron, and wasn't wowed by it, so I never returned to it. A mistake, it was quite nice! I dwelt on it a long time - and occasionally thought I could see some structure in it. That will be fun to image, or look at through someone's scope with more aperture! Looking East, I saw Mars some 20 deg above the horizon. Despite the posts of the last couple of weeks I was still surprised by how bright it was! Since it wasn't too high, the image swam in and out of focus. No joy discerning any details.

While we had good skies, we pretty much simultaneously decided to call it a night about 2:30.

It seems that the staff at Chippokes had fewer lights on, and the newly rebuilt facilities were nice. All in all, a great evening!

*Michelle Shinn*

**Aug-28-07** Five hearty souls braved the bugs & fog to observe the late August eclipse at Cornland.

For all of you folks who thought it would be a bust because it would be too low on the horizon or too cloudy or for whatever pitiful excuse... You missed a neat one.

Dave Hedrick & girl friend Roxanne (what a keeper! 3:00AM on a weeknight at Cornland), Steve Hamilton, myself and Ratbert (my grandson) made the trek to Cornland early this morning and were treated to the August 2007 eclipse.

The moon did not ripen as much as it did that October eve we spent in front of the Chesapeake Planetarium, but it was good nonetheless.

Steve and Dave were dutifully capturing the event properly with their astro imaging gear while I set up my grandson's Starblast for him to observe (and us) the event through. I chose my digital SLR on a tripod with a 300mm lens, stupidly without a dew heater for the lens. I did manage a few adequate shots, but not as many as I should have acquired. I had to keep wiping the lens with a cotton bandanna. Cameron (AKA Ratbert) enjoyed the trip, became bored, tired, hungry, excited, thirsty all of the normal things a six year old goes through. But he did get to get up with Grampy at three AM and go see an eclipse.

Steve busied himself capturing photons of the event on his Megrez mounted on the LXD-75 with his digital SLR while trying to conserve laptop battery resources, luckily this time Steve won the gamble and had plenty of power, if the moon had been higher in the sky and we could have stayed longer then the gamble may not been so pretty.

Dave used his ETX60 and DSI to track and image the event remarkably well, I had remorseful feelings for not trying it with my ETX setup...

All in all we had a good time. My boots are still drying and I am trying to not sit anywhere longer than fifteen minutes at a whack here at work. Three lousy hours of sleep catch up to old fat guys quick...

*Chuck Jagow*

**Aug-18-07** Last night was our monthly night hike at NWRP. I had actually forgotten about it until the park coordinator (Kevin Kaul) called me as I was leaving work. Since we only had a few signed up, I asked Chuck Jagow to help and figured two scopes would be plenty. As it turned out none of the hikers that had signed up, showed up. Must have been scared off by the thunderstorm activity predicted for early evening. But since we were there, Kevin offered to let us observe in return for helping him learn how to use the park's new telescope (an Orion Starblast on a GEM). So the four of us (the fourth was Dr. Dean) went to the point. (South Terminal) We set up the Starblast, collimated it and did a rough polar alignment. After some instruction, Kevin and Dean were able to navigate to Jupiter, Alberio, M13 and M27. It's a cute little scope and a great buy. Some clouds rolled in and Kevin and Dean departed shortly after dark.

*(Continued on page 7)*

## Reaching Out

The evening of June 3rd I participated in the American Cancer Society Relay for Life at the Windsor High School football field. Several hundred people were taking part in the relay, walking around the running track. For several years, I have wanted to set up the telescope at this event for a public viewing, but the weather has been terrible for the last three or four years, at least. This year, of course, the weather was beautiful, with a few thin clouds and very good seeing. I set up the telescope at the end of the running track.

Before sundown, I put the solar filter on the scope and trained it on the sun. Several people stopped out of curiosity ("What is that thing?") and I showed them the sunspot group. They seemed interested. When night fell, I moved the scope to Venus, with the moon filter in the eyepiece to cut down on glare. More people stopped, and noted with interest that it looked like the moon.

At about nine o'clock, I started showing Saturn. Of course, that was the show stopper. Saturn undoubtedly has a very high wow factor. The word started spreading, and at times I had eight or ten people grouped around the scope waiting their turn. Saturn looked very good, and Titan was easily visible.

Around 11:00 PM I moved the scope to Jupiter. It looked better than I have seen it in a long time. Ganymede was approaching the planet. As Ganymede went into transit, I noticed the shadow. As people looked through the eyepiece, I told them the items of interest (moons, shadow, weather bands). The moons were well placed to fit into the FOV at 187x.

A few people insisted on looking at the moon. While there wasn't any shadow detail to speak of, they were suitably impressed.

I was up until 2:00 AM, all in all, a very good night, and a lot of fun. I estimate that about a hundred different people looked through the scope, with many of them looking at multiple objects. Of course, with the stadium lights on, the Virgo cluster was out of the question. The evening was marred by the fact that I broke a bearing bracket on the platform drive. but I can probably fix it with a little glue.

*Dave Sanderson*

## X-PRES

1st of all let me apologize to all out there for the quick and confused way I made my exit.

I guess having my gall bladder out, a motorcycle accident, and the need for two more surgeries on my shoulders, I'm just a mess. Could it be that I'm just too old and set in my ways to understand the new way of running a club? In my case, "you can't teach an old dog new tricks" must be true. Please believe me when I say I was acting in what I believed was in best interest in the club. But like everything else, things change, time moves on, and like a lot of people, I'm in another time zone. I still don't understand how things are supposed to work but like Connie told me, "With all your doctor visits and surgeries coming up, you don't need all this going on in the club, just let it go".

So, that is what I did. Turn it over to the younger group, sit back and try to start enjoying myself again. Sorry if I let everyone down, I just need the time off.

*Dale Carey*

*(The Observer's Corner Continued from page 6)*

The security guard told us that we could stay until 3am. Chuck and I had high hopes as the site is pretty decent and the prediction was for clear skies by 10 or so. It looked like that would be accurate, the clouds were thinning right on cue. Unfortunately, although seeing was really very good, the transparency was horrible and it didn't appear that it was improving.

While Chuck was searching for carbon stars, I tried a few of the brighter Arp Peculiar Galaxies that I haven't seen yet, but I was 0 for 3. The transparency just wouldn't let them show through. I managed some so-so views of some bright planetaries, Jupiter and Neptune, but it just wasn't worth losing sleep over. We packed it in at midnight. By the time I got home, I couldn't see a single star from my front yard.

Anyway, thanks to Chuck for helping with the Night Hike that wasn't. And to that other Night Hiker volunteer that will remain nameless because she chose pizza over stars: good choice.

*Ted Forte*

## NIGHT SKY GUIDES

The night sky guides we ordered this spring are in and are available for all, and we are asking for a \$4.00 donation to cover the cost of acquisition and distribution. Retail price for the guides is \$5.95. To see a representation of the Night Sky Guides, zip on over to the files section of the BBAA YAHOO group and look for the C5 NIGHT SKY GUIDE folder. See Chuck Jagow for your copy at the next meeting.



## OCTOBER 2007

BBAA EVENTS	SPECIAL OUTREACH	ASTRONOMICAL EVENTS
<b>04</b> = BBAA Monthly Meeting @ TCC VB Campus Pungo Building, 7:30 PM		<b>03</b> = LAST QUARTER
<b>05</b> = SKYWATCH @ NWRP, Dusk		
<b>06</b> = CLOVERWATCH @ Franklin Fairgrounds, Dusk	<b>06</b> = VAAS @ 10066 Rogues Road (Rt. 602) Midland, VA, 8:00 AM—? POC: www.novac.com	
		<b>11</b> = NEW MOON
<b>13</b> = NIGHTWATCH @ Chippokes State Park, Dusk		
		<b>19</b> = FIRST QUARTER
<b>20</b> = GARDENSTARS @ The Norfolk Botanical Gardens, 7:00 PM	<b>20</b> = Cub Scouts @ North Landing Beach Riverfront Resort , Virginia Beach, POC Kevin Weiner. Time: TBD ( evening ? )	
	<b>20</b> = Girl Scouts @ Franklin Fairgrounds, POC Cliff Hedgepeth. Dusk ?	<b>26</b> = FULL MOON