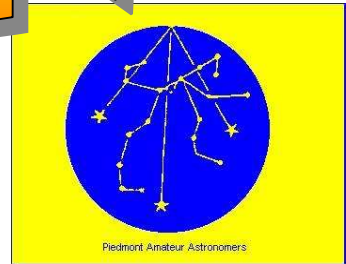

THE RADIANT

September 2008



Volume 08 Issue #9

Official Newsletter of the Piedmont Amateur Astronomers
Statesville, NC



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In this Months Newsletter

- Observing reports
- Astronomy – Astrology
- Our Moon
- NASA's Space Place
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- Fun Stuff
- A comet for September
- Club news

Sunset at Doughton Park
on 20 September 2008.

Photo by:
Charles Tilley

Observing Reports

Doughton Park

By Charles Tilley 20 September 2008

The Clear Sky Chart (CSC) told me it would be a great night for viewing at Doughton Park. The CSC has been wrong about as many times as it has been right in the past.



Should I trust it this time? Diane was out of town visiting with family so I decided to go as my daughter was also camping at Doughton with friends. Packing up the van I headed off under a clear sky, but it remain clear?



I wanted to do some photography first so I arrived shortly before 5:00 PM and after stopping by the campground I headed off to the restaurant and order a take-out hamburger and fries. In the cool mountain I sat and while watching the

Sun creep closer to the western horizon I ate that hamburger and fries and it was good. Then I set up the telescope.

Almost at once people begin to wonder over asking what I was building. Soon there was close to 10 or 12 people standing around watching as I set up the 15" Discovery and



all the while they were asking questions. I put one guy to work helping mount the top part of the scope.

I kept an eye on the southern sky looking for Jupiter to pop out and finally spotted it shortly after 7:00 PM. Swinging the scope around and placing Jupiter in the eyepiece I ask if anyone wanted to be first.

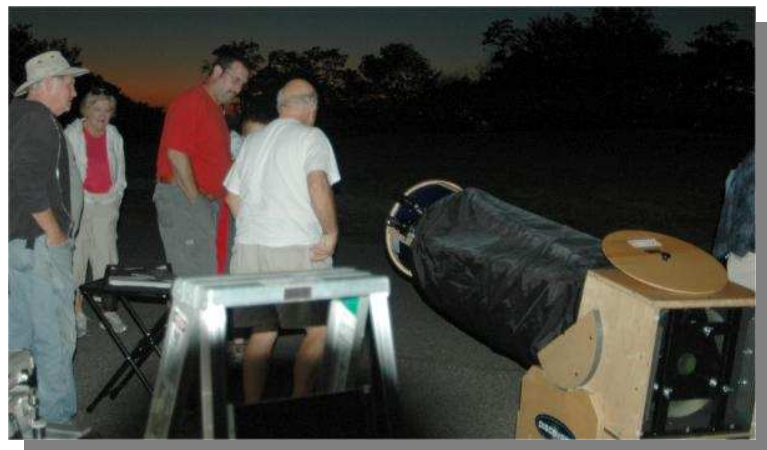
After the first lady let out such a loud “Oh-my” the rest hurried up and formed a line. From then on it seemed there was a line as they would look and move once again to the rear for another look.

For the next two hours I was busy hopping from object to object. We caught Venus very low on the horizon and I told them it would not be worth observing but I was informed that if

you have never seen Venus it would be worth observing. I learned something from that.

The southern sky was alive with star clusters and nebula and this was enhanced with an occasional shooting star. Soon the Milky Way began to appear and became brighter and brighter as stars begin to fill the sky. I stared with the rest of them at the number of stars. It was beautiful as the Milky Way soon arched almost from horizon to horizon. Al and Sandra Banner were up with members of their car club and they were all staying at the lodge. Soon they came driving up and spent about an hour as Al pointed out different objects in the sky with a green laser pointer.

Everyone was finely gone by 10:00 PM. As I looked around the darkness closed in around me like a menacing blanket. Somehow it did not seem as dark while others were around. Now the little noises from the fields became quite loud and if you stare at a fence post long enough it will begin to move around.



Was that something walking toward me? Nah- it’s just a fence post—I hope.

Well this helped me decide it had been a great night but it was now time to leave. Besides I did not feel like playing around with any old monsters from the fields this night. They can find someone else to play with.

On the drive down the mountain I stopped at another pull off and spent close to an hour sitting and looking at the sky with my binocular. It was a very good night.

/cT

A few hours in the backyard

By Charles Tilley 22nd September 2008

The ISS came by tonight right on time and it never ceases to impress me. My main goal tonight was to locate Uranus and Neptune since I failed to find them at Doughton Park last Saturday.

Tonight I went right to Uranus and also to Neptune. Neptune just happens to be across from a line of three stars, which made locating it much easier.

It is hard to comprehend the light from Uranus and Neptune has traveled 1.7 billion and 2.7 billion miles just to plop down inside my little observatory. Now that also impresses me.

As usual Jupiter was splendid. At 7:50 PM I watched as Io slipped behind the planet and it was very easy to identify the two large disks of Ganymede and Callisto far to the left from the smaller disk of Europa.

After observing the planets I spent a few minutes moving slowly up the Milky Way checking out some of the Messier objects. This area of the sky happens to be just over the Lowe's Distribution Center and it can cause some light pollution at times.

Tonight I decided to use the 10" Meade SCT as I thought I would have trouble locating Uranus and Neptune and I wanted the steadiness of this scope. After finding Neptune I wish I had used the 15" Discovery, as I wanted to look for Neptune's Moon Triton. At magnitude 13.5 the old 10" would not pull it out tonight.

All in all it was a great night and I even saw a very bright meteor. Nope, no UFO's but I was sure looking. ☺

Report from Kevin Speaks:

I attempted to view the Space Station also, outside of the photography club meeting that Tilley was supposed to be attending, I knew what you were up to. I didn't get to see anything; I thought the sun was just too bright. As we left at 9'ish, completely dark, we still could not find the big dipper. Now that is some serious light pollution. We spotted what I speculate to be Jupiter and about two stars. It's a shame what the inner city youth are missing these days due to Jesse's light pollution. :)

KS

Still no Sunspots but the Prominences Keep on Coming—

By Charles Tilley 29 September 2008

I was surprised this morning (29 Sept) when I checked out Spaceweather.com and saw a photo of a large prominence. The article said it was still active.

I hurried down to the basement, grabbed the 5" Orion Maksutov telescope and quickly set it up outside. Once the Lumicon H-Alpha solar filter was in place I aimed the telescope at the Sun and there was not one nice prominence but two.

Well this was just too good to let go to waste so I packed everything up in the old Chevy blazer and headed off to town. I wanted to set it up someplace where there would be people so I headed to the Public Library.

After arriving I obtained permission, then set the telescope up just off from the main entrance.

For the next hour and a half I stopped people, ran after people and hailed them from across the parking lot to come look at the Sun—and they did. Many walked up and ask what was going on while others bowed their heads and hurried past. While



some refused to look through the telescope, afraid it would hurt their eyes, most were eager to look and some came back for a second look when leaving the Library. We talked about the type telescope I was using and the filter, where they could get a good telescope and what type binoculars to get. I was surprised at the number of people who stood around asking questions. One guy's son was in the Air Force and did solar work. Wow, what a job to have. Another lady wanted a telescope for her son and I think I have convinced her not to purchase a telescope that is comes in a box promising 500 plus power. One guy already had one of these scopes so I told him to bring it to one of our meetings and we would look at it.

Shortly after 11:15 AM the prominence begin to fade a little, becoming hard for some to see so I decided I had done my duty and called it a day. Besides it was getting a bit warm standing in the Sun. While I was there Stan and Marie Giera came driving up to drop off some movies.

As I was packing up I had shown the Sun to 37 adults and two kids, of which none had ever seen the Sun through a telescope much less a prominence.

One of the highlights of this event was people asking about where to buy telescopes and what kind. I passed out a lot of card with our web site on it and invited everyone to our meetings. Maybe I saved at least one household from buying the wrong telescope this coming Christmas.

In doing impromptu viewings such as this I am fulfilling part of a promise to myself for the coming years and that is to take astronomy out to the people instead of having them come to me. It works and it is most certainly a lot of fun.

/cT

Astronomy Stuff from the news

Is that another star beside our SUN?

There is a line of thinking going around now that our Star (the Sun) does have a companion Star and is a double, has anyone else herd of this also and if so can you give details?

No, our Sun definitely is not a double star. The orbital dynamics of the planets are really well known, and any second star in our vicinity would have been detected long ago.

What you may have heard of is the mythical object Nibiru, thought by some to be a brown dwarf, others to be "Planet X", and most to be non-existent. There's an Internet myth making the rounds that this object will collide with the Earth on December 21, 2012, coinciding with the end of the Mayan calendar. If such an object did exist, by now it would be by far the brightest object in our skies, which, of course, it isn't.

Greetings to everyone who has expressed interest in the Old North State Star Party

Bad news: we had to go back to the drawing boards and cancel for this year. But we'll be back, because we are committed to organizing a star party that doesn't compromise on *really dark sky, comfortable facilities, and well-organized programs.*

Good news: we hope you'll see us at the **Mid Atlantic Star Party** (MASP) October 22-November 2, 2008 in Robbins, Moore County, NC. On-site registration for MASP will begin at noon on Monday, October 27th. <http://masp.org/home.htm>

The town of Robbins <http://www.robbinsnc.us> is very supportive of this event and even has a website devoted to the "Dark Park" <http://www.darkpark.org>

MASP has an astrophotography contest, so check out the Big Bang website for the latest planetary CCDs, deep sky cameras and accessories. www.bigbangastro.com.

Keep looking up!

Katie Selph
Big Bang Astronomy Shop
We're Always Expanding!

919-329-2800

Did you know that in the past, you could see more than 3,000 stars on a clear night and today at best only a few hundred?

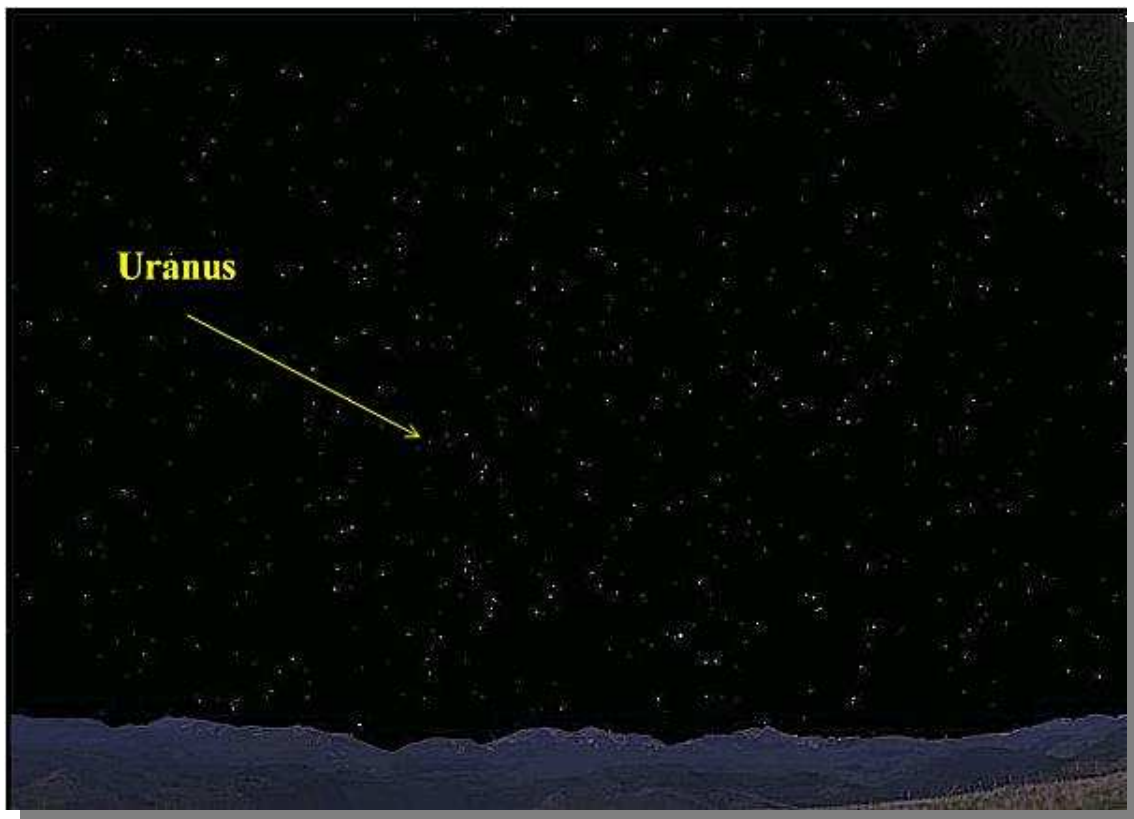
How to locate **Uranus** by **Star Hopping**

By Charles Tilley

You spread out your star atlas, locate the spot where Uranus should be and it all looks so easy. Uranus is sitting right there in an empty spot of the sky, no problem but when you look up at the sky all you see is a mess.

The constellations are not outlined with lines as they are in the atlas. You know Aquarius is up there but where???? What direction do I look????

This is but a few problems facing someone new to astronomy. They know nothing about the constellations or anything about the sky. If they have purchased a GO-TO telescope and the scope locates Uranus or any object they punch in then they have no idea where they are looking and have learned nothing except how to push buttons.



If the yellow arrow were not pointing to Uranus it would be very hard indeed to locate the planet if you had no idea where to look or what to look for. If you do know them the constellations are very visible and lead you straight to your target, --most of the time. However, if you were looking for Neptune, which is not visible to the naked eye, then you must use another method and this brings us to Star Hopping. Star Hopping is nothing but a game of tracking down your prey.

I have never owned a GO-TO telescope and most likely never will. I have nothing against them but I just love the excitement of the hunt. Some objects are relatively easy while others are very hard and even prove to be impossible to find. This is when the art of Star Hopping enters the picture.

Star Hopping is one of the best ways to locate dim or hard to find objects and believe me you **will** feel a real sense of excitement when all of a sudden the object appears in the eyepiece. Anyone can push a button on a Go-To telescope and let the telescope do all the work but then you may not even know where you are looking. You can do this after you learn how to locate objects on your own. By that time you will have an idea of what the sky is all about.

Let's try star hopping to Uranus. At magnitude 5.8 Uranus can be seen with the naked eye in a dark sky and is very easy in a binocular. The problem is that it will still look like a star in binoculars. Only in a telescope will the color (bluish) and disk take form but even then it may be hard to identify at low power if it is located among a lot of other stars. The planet Neptune is over a billion miles further and even harder to identify.

The first step is to locate where Uranus will be on a star map. What constellation is it in? If we are lucky it will be close to a bright star but most likely it will not.

Still using the star atlas the second step is to identify a bright star close to the area as a starting point. Now find other stars that will lead you closer to the object you are hunting.

The third step is to look up and identify the constellation and the star you chose as a starting point—aim your telescope toward this star.

While looking through the telescope find the next star and the next and so on until you come to the field where Uranus should be. Sounds easy so far. Even in a telescope at low power Uranus will most likely still appear as a star and a dim star at that.

Once you place the telescope on what you think is Uranus move up to a higher power eyepiece. Last night I was using my 10" Meade SCT with a focal length of 2500 and an eyepiece of 32 mm. This gave me a power of 78 (2500 divided by 32) and made it easy to locate the field where I suspected Uranus to be. Everything looked like a star, even Uranus.

I replaced the 32mm eyepiece with a 9mm eyepiece for a power of 277. I adjusted the focus and there was Uranus, a nice little blue ball sitting among all those stars in a sea of blackness. There was no doubt that this was not a star but indeed the planet Uranus.

Don't expect to see an object as large as Jupiter or Saturn. Even though it is very easy to identify it is still very small, as the dim light you are seeing has just completed a trip of about 1.8 billion miles. **Believe me it is well worth the hunt to locate this planet.**

Neptune can be located the same way. Both planets are well placed now and very easy to locate using the **Star Hopping** method. So get that star atlas out and start hopping— **star hopping** that is.

A very good book on Star Hopping is: **Star-Hopping** by Robert Garfinkle
/cT

Remaining Dates for the Hanging Rock State Park events for 2008

1) October – 24th - 25th –plus solar viewing from 2 to 4 PM

This will be our last event for Hanging Rock State Park for this year. If you love camping, beautiful scenery and cool temperatures then you will love HRSP. Every event our club has at this park turns out about as good as it gets. So if you are not doing anything during this time come on up and enjoy some of Jesse Jackson famous chilly beans and corn bread and bring your telescope.

Some of my favorite quotes by [Carl Sagan](#):

- * In order to make an apple pie from scratch, you must first create the universe.
- * I can find in my undergraduate classes, bright students who do not know that the stars rise and set at night, or even that the Sun is a star.
- * Imagination will often carry us to worlds that never were. But without it we go nowhere.
- * Somewhere, something incredible is waiting to be known.
- * Who are we? We find that we live on an insignificant planet of a humdrum star lost in a galaxy tucked away in some forgotten corner of a universe in which there are far more galaxies than people.

Our Moon

Moon, planets, stars and clusters

07th – Jupiter 2 degrees N of Moon
10th – Moon and Neptune 0.9 degrees apart
17th – Moon 0.8 degrees N of Pleiades
22nd – Moon 0.9 degrees S of Beehive
23rd – Moon 1.9 degrees S of Regulus
31st – Moon 0.1 degrees N of Antares

Luna Phase for October 2008

07th – First Quarter
14th – Full Moon
21st – Last Quarter
28th – New Moon



Ages of Flashes:

The craters Aristarchus, Plato, Eratosthenes, Biela, Rabbi Levi, and Posidonius all reported anomalous lights on the moon. NASA, one year before the first lunar landing, reported 570+ lights and flashes were observed on the moon from 1540 to 1967.

Sounds like *ET* may have a condo up there!

☺ ☺ ☺ ☺

Extreme Starburst

By: Dr. Tony Phillips

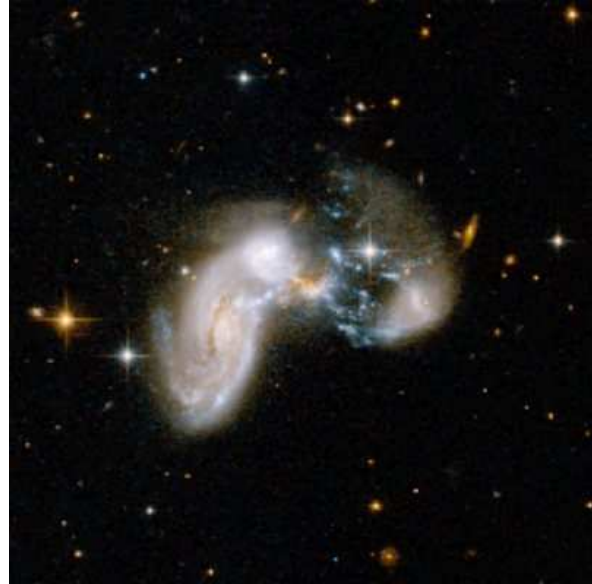


A star is born. A star is born. A star is born.

Repeat that phrase 4000 times and you start to get an idea what life is like in distant galaxy J100054+023436.

Astronomers using NASA's Spitzer Space Telescope and ground-based observatories have found that the galaxy gives birth to as many as 4000 stars a year. For comparison, in the same period of time the Milky Way produces only about 10. This makes J100054+023436 an extreme starburst galaxy.

"We call it the 'Baby Boom galaxy,'" says Peter Capak of NASA's Spitzer Science Center at the California Institute of Technology in Pasadena, CA. "It is undergoing a major baby boom, producing most of its stars all at once. If our human population was produced in a similar boom, then almost all people alive today would be the same age."



Capak is lead author of a paper entitled "Spectroscopic Confirmation of an Extreme Starburst at Redshift 4.547" detailing the discovery in the July 10th issue of *Astrophysical Journal Letters*.

The galaxy appears to be a merger, a "train wreck" of two or more galaxies crashing together. The crash is what produces the baby boom. Clouds of interstellar gas within the two galaxies press against one another and collapse to form stars, dozens to hundreds at a time.

This isn't the first time astronomers have witnessed a galaxy producing so many stars. "There are some other extreme starburst galaxies in the local universe," says Capak. But the Baby Boom galaxy is special because it is not local. It lies about 12.3 billion light years from Earth, which means we are seeing it as it was 12.3 billion years ago. The universe itself is no older than 14 billion years, so this galaxy is just a youngster (Capak likens it to a 6-year-old human) previously thought to be incapable of such rapid-fire star production.

The Baby Boom galaxy poses a challenge to the Hierarchical Model of galaxy evolution favored by many astronomers. According to the Hierarchical Model, galaxies grow by merging; Add two small galaxies together, and you get a bigger galaxy. In the early years of the universe, all galaxies were small, and they produced correspondingly small bursts of star formation when they merged. "Yet in J100054+023436, we see an extreme starburst. The merging galaxies must be pretty large."

Capak and colleagues are busy looking for more Baby Boomers "to see if this is a one-off case or a common occurrence." The theory of evolution of galaxies hangs in the balance.

Meanwhile... A star is born. A star is born. A star is born.

See more breathtaking Spitzer images at www.spitzer.caltech.edu/Media/mediainages. Kids can play the new Spitzer "Sign Here!" game at spaceplace.nasa.gov/en/kids/spitzer/signs.

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

Caption:

The "Baby Boom" galaxy loosely resembles the galaxy shown here, called Zw II 96, in this Hubble Space Telescope image. This galaxy is only 500 million light-years away, while the Baby Boom galaxy is 12.3 billion light-years away.

What's Going On With the Planets this Month?

Mercury: Mercury is at inferior on the 6th and reaches greatest elongation west (18 degrees) on the 22nd. The northern hemisphere will enjoy its finest morning twilight apparition of the year during the second half of October.

Venus: On the 1st look for Venus, Mars and a 2.5-day old crescent Moon very low in the west. Look again in the west for Venus and a 2.7-day old crescent Moon on the 31st.

Mars: Mars will cross over into Libra on the 15th but will also sink into the solar glare. It will be in conjunction with the Sun on December 5th.

Jupiter: Jupiter transits near sunset and will set in the west-southwest around 11:00 PM.

Saturn: Saturn rises around 6:00 AM on the 1st, around 5:00 AM on the 15th and around 4:00 AM by months end.

Uranus and Neptune: Uranus and Neptune are both in very good locations for viewing this month, while Uranus will be in Aquarius, Neptune will reside in Capricorn.

Meteor Shower for October 2008

The Orionid meteor shower is expected to rain down the most meteors tomorrow morning – 21st October (Tuesday) – in the wee hours before dawn. In some years – with a dark, moonless sky – you can see 10 to 20 Orionid meteors every hour. But this year, the moon will wash out all but the brightest Orionids. The Orionids are extremely fast meteors, plummeting into the Earth's atmosphere at 66 kilometers – 41 miles – per second. Maybe half of the Orionid meteors leave persistent trains – ionized gas trails that last for a few seconds after the meteor itself has gone.

Draconid Meteor Shower

The 9-day old Moon will set before 1:30 AM on the 9th so it will not effect this meteor shower.

The annual **Draconid Meteor Shower** peaks on Oct. 9th at 0430 UT--in other words, tonight at 12:30 am EDT. No a big display. The source of the shower, comet 21P/Giacobini-Zinner, is far away and would produce no more than a few slow meteors every hour. If you decide to look, keep an eye on the northern sky (Draco is not far from the north celestial pole) during the hours around the predicted peak.

Is all this effort really worth it?

By Charles Tilley with special thanks to Mark Smith for doing all the leg work.

At one time or another all of us have come away from a public star gaze with the feeling of, *“That was a lot of trouble for nothing”*, feeling.

It is a lot of work getting all the items together plus traveling to the observing site. There are times that make it all worth all this effort. Such a time happened the last time the PAA was at Doughton Park. The excitement of one small girl made the whole trip worth it.

Her name was **Haleigh Tarmen** and she really enjoyed looking through the telescopes. We placed a photo of her in the newsletter and Mark Smith mailed then a copy. Here is a response Mark received from Haleigh’s mother:

Hello this is Haleigh's mom Bonnie.

I wanted to let you know she loved the newsletter and she thought it was so cool to be in the letter. I made a copy of it and had to put it in a folder for her. She wants to take it to school to share with everyone.

Thank you for taking the time to show her Jupiter and the Moons she is now asking for a telescope for Christmas. You really made an impression on her.

Thanks again. Bonnie

So the next time you feel all your efforts are for nothing remember all it takes is getting through to that one special person out of a hundred to make a difference.

After all, this may be the first step on a long road for some of our future scientist and astronauts.

So to answer the questions above:

Is all this really worth it? Definitely YES!

/cT

Be sure and check out the club Web Site: Dave Clark had been upgrading it.

Log on a usual at:

www.piedmontamateurastronomers.com

Send any comments/suggestions you may have to Dave Clark.

Nice job Dave.

/cT

Club News

Thanks to all who contributed material this month.

When submitting articles/photos please include the source. For photos please give specs such as camera, speed, f#, lens, conditions and place.

Send newsletter articles/correspondence/photos to:

Charles Tilley (editor)
ctvideo@yadtel.net
PH: (704) 546-2686

What's Up for 2008

October, Dean Archie
November, Charles Tilley

Club Events For October 2008

Hanging Rock State Park – 24th-25th and 26th
If you can help with this event see Jesse Jackson or myself.

Multi club event:

Mid-Atlantic Star Party- Robbins NC
27th October to 2nd November

Additional club events will be announced by e-mail as they are scheduled.

Where and when do we meet?

We meet on the first Thursday of each month in the conference room of the Iredell County Rescue Squad Building. Our meetings start at 19:30 hrs (7:30 PM) and last up to two hours. Each meeting covers club business, observing reports and upcoming observing events. We also have an educational or entertaining presentation from a club member or guest speaker with observing afterwards (weather permitting).

If you have an interest in astronomy please feel free to stop by and check us out.
You just may want to join.

Programs for 2008

October – Open
November – Jim Smith
December – Christmas Party – no program

Club members who sent in material for this month's newsletter are: Kevin Speaks

Thanks to all the members who came out and supported club events.

/cT - Editor

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Yep, it's the old 14th blank page again. You know the story—I can't end a newsletter with 13 pages.