



Upcoming SAAA Events...

Club Meeting: Thursday, March 15 @ 7:00 PM

- *Macatawa Bay School Planetarium*
- *Topic: Desktop Planetarium Software*
- *Refreshments: Peter Burkey*

Observing Session: Friday, March 16 @ 6:00 PM

- *Vivekananda Monastery, 6723 122nd Ave, in Fennville*
- *Messier Marathon 2007*
- *Weather Permitting*
- *Sunset at 7:52 PM DST*

Board Meeting: Thursday, April 5 @ 5:30 PM

- *Beechwood Inn, 380 Douglas Avenue, Holland*

Celestial Highlights:

Mar. 3
Full Moon; Moon rises during total phase of lunar eclipse

Mar. 11
Last-quarter Moon

Mar. 18
New Moon

Mar. 20
Spring begins at 8:07p.m. EDT when the Sun reaches vernal equinox.

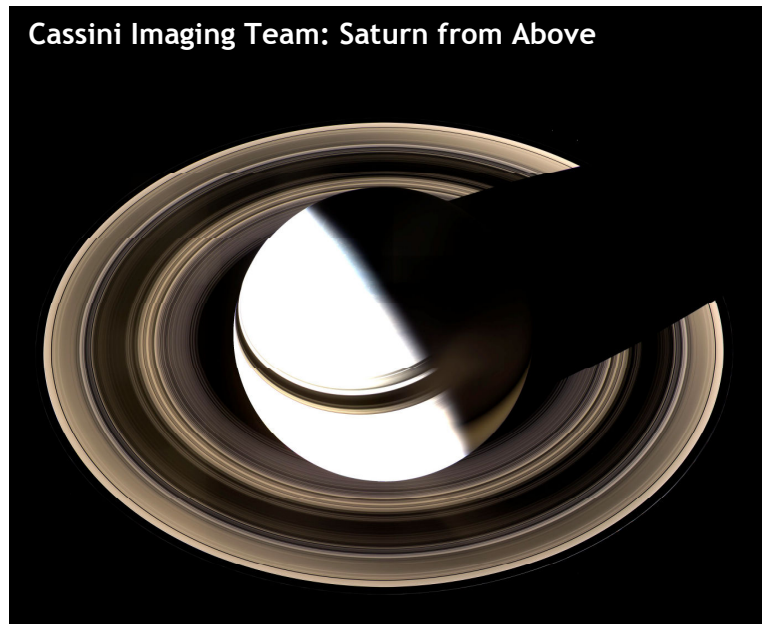
Mar. 20-21
Observe crescent moon near Venus 1 hour after sunset

Mar. 25
First quarter Moon

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Cassini Imaging Team: Saturn from Above



February meeting minutes

The general meeting of the Shoreline Amateur Astronomical Association was brought to order by Jim Reier on Thursday, February 15, 2007 at 7:15 p.m. Eighteen members and guests attended the meeting which took place at Grand Valley State University Meijer Campus in Holland. Dr. Kevin Cole was our guest speaker that evening and gave a wonderful presentation on meteorites and meteor-wrongs. Jim Reier and Peter Burkey had dinner with Dr. Cole prior to the event.

The meeting opened with old and new Club business.

Old Business

- Announced that 2007 membership dues would be collected following the presentation.
- The club has purchased Robert Burnham's classic three volume Burnham's Celestial Handbook for the library. The books will be available for sign-out at the March SAAA meeting.
- Announced that February observing session had been cancelled due to winter conditions.
- Peter Burkey to bring refreshments in March.

New Business

- We're soliciting ideas for National Astronomy Day on April 21st and September 15th. If you have suggestions please email Jim Reier at jreier@chartermi.net.
- Announced that Sky & Telescope renewal forms and payment must be submitted to Mark Logsdon at or before the April meeting.
- Announced that web-site training is postponed until a new date can be established. Members are encouraged to create user accounts on our web host for WordPress and phpBB forums. Contact Jim Reier for details.

The meeting was turned over to Dr. Cole. Members and guests were introduced to meteorite impacts and the metallurgical composition of meteorite fragments. Dr. Cole explained techniques to visually examine and scientifically conclude whether a rock is of extraterrestrial origin or not.

Dr. Cole shared a generous sampling of meteorites from GVSU's rock collection. Meteorites and meteor-wrongs were passed around the room for guests to handle and query.

Everyone participated in a 3D visual presentation of the Sloan Deep Sky Survey (SDSS). Dr. Cole took members on a visual tour of the visible universe based on the most recent SDSS data.

A second 3D presentation using NASA World Wind software introduced members to geographical impact craters from the Earth, Moon and Mars. Additional SDSS capabilities are available in the NASA tool.

The presentation concluded at 9:50 PM.

Board meeting minutes

SAAA officers and at-large members assembled for a board meeting on March 1, 2007 at the 84 East restaurant in Holland. President Jim Reier brought the meeting to order at 5:30 p.m.

In attendance were Jim Reier and Peter Burkey.

Mark Logsdon emailed a treasury report in advance. The SAAA has \$769.44 in the treasury, an increase of \$10 for February due to membership contributions from 1 member.

MESSIER MARATHON – March 16, 2007

Mark your calendars and hope for clear skies. We have prepared an observing plan to collectively hunt down all 110 Messier objects this year. Members in possession of club scopes are encouraged to bring them to this event. Note, this is an all night (dusk 'til dawn) affair

Jim Reier sent a thank-you letter to Dr. Kevin Cole for guest speaking and hosting the presentation at GVSU Meijer Campus on February 15th.

Jim Reier contacted Mark Perkins to inquire about the planetarium synchronize motor and planet locations. Mark indicates that he doesn't have a motor in stock and that Minolta no longer has an office for planetarium stock in the USA. Mark says he will contact the Minolta rep, but advised that getting the motor will take some time. Mark is willing to adjust planetary locations in time for our April meeting.

Robert Wade contributed a newsletter article that is featured this month sharing his experience at Okie-Tex 2006.

On March 15th, Russ Hills and Jim Reier will review planetarium software for your personal computer. Popular titles like Starry Night, The Sky, Stellarium and others will be featured.

In April, we host Park Township. The topic is the solar system with emphasis on lunar and planetary motion. We will discuss Earth's axis of rotation and the reason behind the four seasons. We will explain the spring and fall equinoxes and the summer and winter solstices.

Barb Burmeister of Park Township emailed Jim Reier advising that as of February 27th, there are 36 participants registered for the April event. We definitely need to split the presentation into two sessions and will require the planetarium and a classroom. Peter Burkey has offered to contact the School to request a classroom be made available.

Peter Burkey offered to speak at our February 2008 SAAA meeting to present images honoring the 10-year anniversary of the total solar eclipse from February 26, 1998.

Reminder, the SAAA owns two telescopes that club members may borrow. We have a 4.5" and a 6" Dobsonian reflector. Please notify a board member if you would like to borrow one of these two instruments.

What's up in the sky?

March, 2007
By Peter Burkey

March is usually notable as being the month during which the Sun crosses the vernal equinox marking the first day of spring for those of us in the Northern Hemisphere.

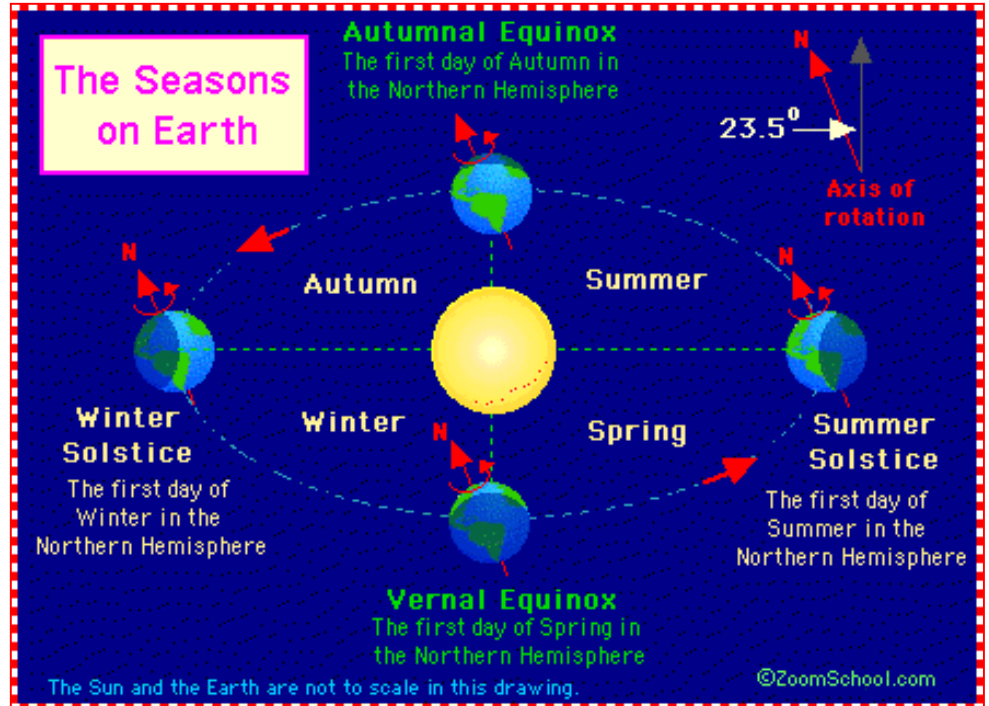
This year March should also be notable to fans of word puzzles because we will be able to witness "syzygy" - the alignment of three celestial bodies. The three are the Sun, Earth, and Moon and it happens at sunset this Saturday, March 3. For observers in West Michigan the rising Moon will be engulfed in the Earth's shadow at that time, an event known as a total lunar eclipse.

Although lunar eclipses occur on average every 1.2 years, this will be the first one since October 28, 2004. And although we will miss the beginning phases of the eclipse which occur before the Moon rises, there are still some unique aspects we may be able to see.

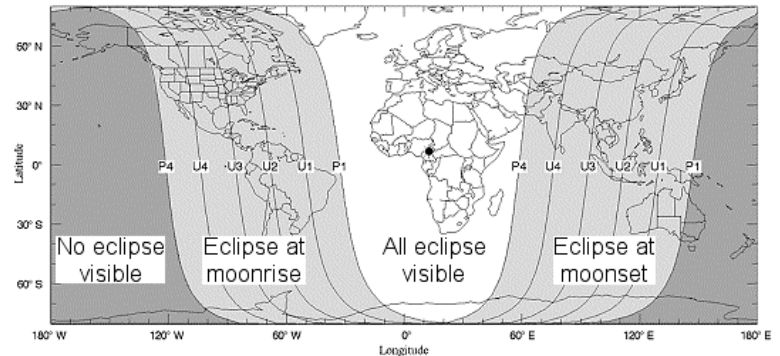
One interesting observation you may want to attempt is to observe the rising eclipsed Moon and the setting Sun at the same time. This may seem impossible due to the perfect syzygy alignment but because light from each object is bent by our atmosphere we are actually able to see the Sun for several minutes after it has set and the Moon several minutes before it rises. Of course, you will need cloudless skies and a clear view of each horizon. Start your search for the rising Moon on the eastern horizon right at 6:30 p.m. Binoculars will help, depending on how clear it is. Being up high will help also - like on Mt. Baldy in Saugatuck. Good luck.

A somewhat easier, but no less unique, observation may also be possible for those viewing with a small telescope or a good pair of binoculars. Beginning at 7:10 p.m., train your scope on the upper right-hand portion of the Moon and watch carefully. By 7:15 you should see a dim star appear from behind the Moon. Normally a star like this would be completely washed out by the bright, full Moon but since the Moon is in the Earth's shadow, we may be able to witness its appearance - a rare event indeed.

I am very interested to know if any readers successfully observe either of these events. Please email me at pburkey@comcast.net if you do.



Vernal Equinox and Other Seasons



This chart shows the visibility of the lunar eclipse on March 3, 2007. As you can see, North America is only able to view the eclipse at moonrise.



Fully eclipsed Moon image taken March 3, 2007 in Stockholm, Sweden.

This month in history:

- Mar. 1: Venera 13 relays first color photos from surface of Venus - 1982
- Mar. 8: Voyager 1 discovers first active extraterrestrial volcanoes (on Jupiter's moon Io) - 1979
- Mar. 10: Rings of Uranus discovered - 1977
- Mar. 14: Albert Einstein born - 1879
- Mar. 16: First liquid fuel rocket launched by Robert Goddard - 1926
- Mar. 18: World's first spacewalk made by Alexei Leonov - 1965
- Mar. 23: First photograph of Moon - 1840
- Mar. 25 Saturn's moon, Titan, discovered by Christiaan Huygens - 1655



Even Solar Sails Need a Mast

By Patrick L. Barry

Like the explorers of centuries past who set sail for new lands, humans may someday sail across deep space to visit other stars. Only it won't be wind pushing their sails, but the slight pressure of sunlight.

Solar sails, as they're called, hold great promise for providing propulsion in space without the need for heavy propellant. But building a solar sail will be hard; to make the most of sunlight's tiny push, the sail must be as large as several football fields, yet weigh next to nothing. Creating a super-lightweight material for the sail itself is tricky enough, but how do you build a "mast" for that sail that's equally light and strong?

Enter SAILMAST, a program to build and test-fly a mast light enough for future solar sails. With support from NASA's In-Space Propulsion Program to mature the technology and perform ground demonstrator tests, SAILMAST's engineers were ready to produce a truss suitable for validation in space that's 40 meters (about 130 feet) long, yet weighs only 1.4 kilograms (about 3 pounds)!

In spite of its light weight, this truss is surprisingly rigid. "It's a revelation when people come in and actually play with one of the demo versions—it's like, whoa, this is really strong!" says Michael McEachen, principal investigator for SAILMAST at ATK Space Systems in Goleta, California.

SAILMAST will fly aboard NASA's Space Technology 8 (ST8) mission, scheduled to launch in February 2009. The mission is

part of NASA's New Millennium Program, which flight tests cutting-edge technologies so that they can be used reliably for future space exploration. While actually flying to nearby stars is probably decades away, solar sails may come in handy close to home. Engineers are eyeing this technology for "solar sentinels," spacecraft that orbit the Sun to provide early warning of solar flares.

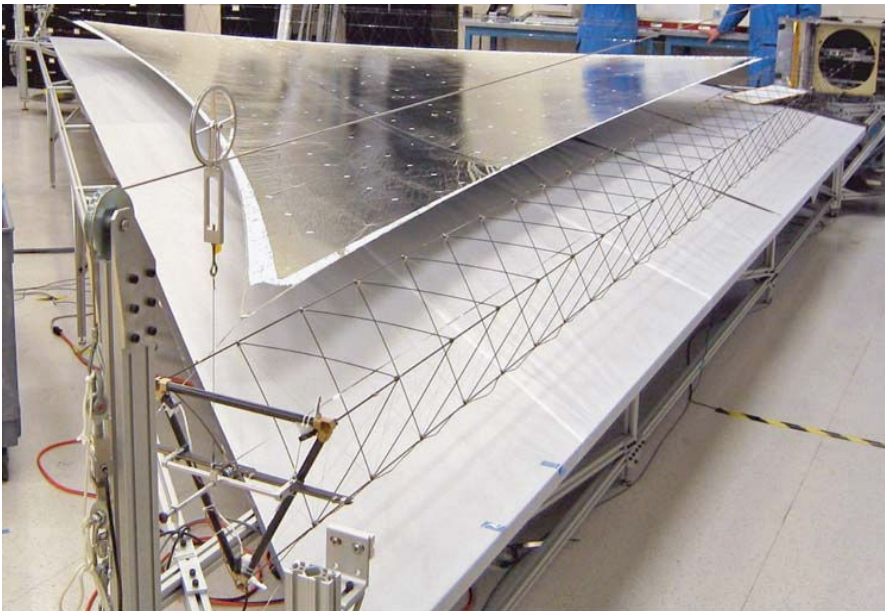
Once in space, ST8 will slowly deploy SAILMAST by uncoiling it. The truss consists of three very thin, 40-meter-long rods connected by short cross-members. The engineers used high-strength graphite for these structural members so that they could make them very thin and light.

The key question is how straight SAILMAST will be after it deploys in space. The smaller the curve of the mast the more load it can support. "That's really why we need to fly it in space, to see how straight it is when it's floating weightlessly," McEachen says.

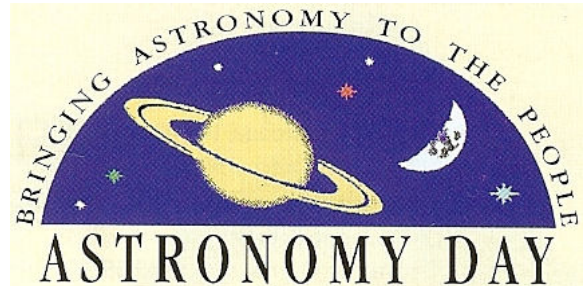
It's an important step toward building a sail for the space-mariners of the future.

Find out more about SAILMAST at nmp.nasa.gov/st8. Kids can visit spaceplace.nasa.gov/en/kids/st8/sailmast to see how SAILMAST is like a Slinky® toy in space.

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



Caption: SAILMAST is the thin triangular truss in front of the picture. It is attached to a section of a silver foil solar sail section shown here in a laboratory test. The mast in the picture is 2m (6 ft) long. The Space Technology 8 mission will test the SAILMAST, which is 20 times longer.



**April 21, 2007 and
September 15, 2007**

As an experiment, we are trying both a fall and spring date to see which works better. Feel free to host events on either or both.

Events held on the September date are eligible for entry into the 2008 Astronomy Day Awards. For the latest information, current application forms for the Astronomy Day Award or to download the latest version of the Astronomy Day Handbook go to the Astronomy Day homepage.

For more information, contact:

Gary Tomlinson
Astronomy Day Headquarters
30 Stargazer Lane
Comstock Park, MI 49321
616-784-9518

gtomlins@sbcglobal.net
www.astroleague.org/astroday.html

“One great dark sky star party!”

23rd Annual Okie-Tex Star Party

By: Robert Wade
Email: ynefel@gmail.com

Introduction

If you are not really interested in attending a modest sized star party in *very* dark skies, save yourself the trouble and read no further. I knew 2006 would be a special year when I joined the University Lowbrows. Any club that has an **Any Clear Night Observing** email list on a list server is my kind of club. I couldn't attend WSP this past February due to moving into the area from Kalamazoo, so I was more than enthusiastic when Mark Deprest glowingly suggested the Black Forest Star Party as a Lowbrow event. Due to the rather inclement weather, this event was rather a 'deprestiting' letdown – this year at least. However, it was far from a total loss as I got to know many Lowbrows much better. The only thing more enjoyable than clear crisp skies is enjoying them with good friends. Meeting new friends under lousy skies comes a close second....

One weekend later I was sitting at the breakfast bar at home lamenting aloud the fact that couldn't see how to use the rest of my vacation in 2006 and would have to carry some over next year. Wendy (my gracious wife) then asked if there was any other star party I could yet attend in 2006. Quicker than Jack Flash I suggested Okie-Tex and asked if she's be interested in attending as well since we haven't traveled to that part of the Southwest yet. Much to my delighted surprise, she said “yes.”

Why Okie-Tex (<http://www.okie-tex.com>)? I'd been to three Nebraska Star Parties since 1998, and I was really hooked on clear, dark, and dry skies. However, the weather at NSP is usually very hot with unpredictable prairie windstorms that can really ruin a good day. That left either the Texas Star Party or Okie-Tex at the farthest range of my desire to drive. I was (am) somewhat leery of TSP due to its infamous dust storms and I didn't relish dust infiltrating all my equipment and optics. So when Wendy suggested another star party, the choice was really a no-brainer.

The Place

For many years now, the Okie-Tex star party has been held at Camp Billy Joe just outside of Kenton, Oklahoma located in the Oklahoma panhandle just miles away from Texas, Kansas, New Mexico, and Colorado. It is dry high plains territory, nestled in between two low mesas which do not really affect the horizon. Kenton is a bustling metropolis of 26 – well, ok, not quite bustling. Camp Billy Joe is a Christian youth camp and the Okie-Tex organizers have signed long term contracts with them, in return for field upgrades such as electricity, DSL for internet, etc.

The star party was held from Saturday, September 16th-24th. For accommodations, there are six insulated/heated bunkhouses with beds. These are available on a first-come-first-served basis and are provided by registration and facility fees. One building is designated for women only and the rest are labeled for men or family use. Tent campers, trailers or RVs are asked to set up around the perimeter of the two observing fields. The camp *does not* support RV hookups at this time. There is a large community building that houses the showers and bathroom facilities for the camp. These are available as well as portable toilets scattered near the observing fields for the comfort of our guests. This building also houses the vendor hall, registration table and the kitchen area that is used by the caterers during the day. At night it becomes the *Cosmic Café* replete with the obligatory red lighting.

Catered breakfasts, lunches and dinners are available at the Camp Billy Joe Community Building during the star party. These meals are provided by Cimarron Heritage Center. The meals are priced separately and are in addition to star party registration.



Breakfast is \$5.00, lunches are \$7.00 and dinners are \$10.00. Wendy & I took advantage of these meals, and for the most part there was ample and tasty food. Supplies were a bit thin at times due to too many last minute walk-ups deciding they would rather not cook. Like at WSP or BFSP, the *Latenight Cafe* opens each evening from approximately 10:00 PM until 3:00 AM where you can get burgers, hot or cold drinks, snacks and other goodies.

The Trip

Granted, Okie-Tex is a long drive from Ann Arbor at approximately 1300 miles. That's two days of driving if you're going to break it up and not rush straight through. Since we were going to take our new Westie puppies (Merry & Pippin) we decided to take it in two days beginning Thursday morning. We wanted a choice spot on the field to camp, so needed to arrive bright and early Saturday morning.

I abhor Chicago traffic, and thus decided to take the Indianapolis to St. Louis route. All of Michigan, Indiana, and part of Missouri were under thick and wet cloud cover. I was fervently praying for no rerun of BFSP. From there, we got as far as Columbia, Missouri before we called it a day. The dogs adapted magnificently to the road trip, as we let them out once every 2 hours or so. From western Missouri through east and central Kansas was a study in geographical flatness - miles and endless miles of it. Very little traffic once you're off the interstate. So moving down the road, even towing a trailer, was never a problem. We arrived in Boise City (pronounced *boyz*), Oklahoma around dark and sought out our slightly less than 2 star motel. This was still rather flat territory, slightly more arid than Kansas.

The next morning, like the previous day, dawned bright and very clear. The sky was the kind of blue you see in Michigan *with* polarized sunglasses. We were about 36 miles from Kenton, and so hit the road shortly after a quick breakfast at a busy truck stop. Not far out of Boise City the terrain began to rapidly change from flat to mesa-like and to be visually interesting.

Saturday, September 16

We arrived at a mostly deserted Camp Billy Joe mid morning. The sky was blue and most of two observing fields were ours for the taking. We met some the friendly organizers still chalking the fields and arranging great clumps of extension cords in strategic spots. I asked about where we could set up to get electricity for scope drives, etc., and they said not to worry – they'll find us. Wow, what a nice place....

Wendy and I chose a strategic two-clump tree on the north end of the observing field. We hoped to be away from the main crowd, not knowing how the dogs would behave with lots of people and likely other pets as well. So much for being out of the way! It turns out we were at the strategic corner of dob-central. I have never seen so many Obsession telescopes at any star party. There must have been >30, easily – ranging from 12.5" to 30". Dave Kriege himself, along with James Mulherin of Torus optics, set up right behind us and he had 12 Obsessions in his van! Lots of them came out and were lined up, ready for delivery. He was making a combined star party & delivery run.



Next to Wendy & I was Bob Pitt from Alabama, with another 20" Obsession. He was soon joined by Peter Eschmann from Albuquerque with another 20" Obsession. Thus, there were three 20" in a row, Dave's 25" behind us, an 18" Obsession next to him by the UPers, a 20" next to that, and a 30" on the other side of him. There was so much glass arrayed around us that no photon could possibly be lost after dark.

As the sun went down it was still spectacularly clear, but with a slight wind that would make many of us glad we had ServoCat equipped Obsessions. One person began to complain about that pesky Gegenschein after it got completely dark. There was the occasional cloud – but they were black underneath and lighter on top from starlight. My subjective impressions for the sky were as follows: transparency 10 out of 10, darkness 9.5 out of 10, and seeing 4 out of 10. The seeing pretty much stayed like that the whole week, making really dim small objects a challenge and the only tarnishing aspect of the star party nights.

Since the seeing was less than optimal, I decided to spend that night, and eventually the following 3 nights, going after obscure dim objects and play around with magnification and filters. I decided to relax and enjoy what I was looking at, instead of behaving like it was a Messier Marathon. That turned out to be a very rewarding move. One of the memorable sights that night was [B142 and B143](#). They are a pair of dark nebulae in Aquila in the rich summer Milky Way star fields near Tarazed (Gamma Aquilae) and are also known as Barnard's E due to the resemblance to that letter of the alphabet. The darkness against

the stellar background was palpable. Despite the seeing, I went after and successfully found [Palomar 8](#) and [Palomar 11](#) – two of a series of very faint extragalactic globulars. In addition, I viewed some Collinder, Baikuran, and Stephenson open clusters – quite off the beaten path.

Sunday, September 17

According to Wendy, Sunday dawned clear and bright. I got almost enough sleep and the weather forecast portended that the cruel goddess of the night will be dancing tonight stark naked above us yet again, driving us to our eyepieces and depriving us all of needed sleep.

The mascots Okie & Tex were sighted above us on a ridge, so we took Merry & Pippin up for a light climb and got a great bird's eye view of the site. After a light afternoon slumber, we again prepared for what looked like a long night.

After twilight, we had stars from tree top to tree top across the bowl of the sky straight down to the ground for the rest of the night. Seeing started out dismal and improved steadily through the night greeting the moon rise with a acceptable 6.5 to 7 out of 10. The transparency and darkness were the same as the night before.



I decided to concentrate early on using the [Mallincam Hyper Color](#) video camera to try my hand at some more video imaging. The seeing was marginally better than the previous evening – so I wasn't expecting great results. This was just time set aside to educate myself on all the buttons, bells, and whistles.

It clouded up late in the evening (around midnight), so I crawled into the tent until about 4 am, at which time it was again clear so I climbed back out and observed some of the winter highlights until predawn – then back for a few more hours of shut-eye.

Monday, September 18



minded determination to not waste a stray photon after dark.

This night was largely dedicated to [Hickson galaxy clusters](#). I've always like faint fuzzies – so I used SkyTools earlier in the day to build an observing list of galaxy clusters with 4+ galaxies in the field of view. Hicksons 2, 10, 16, 96, 97 were among the objects bagged that night. Perhaps the most memorable was H16 in Cetus. At 250x with my 10 mm TeleVue Radian I noted this as “A beautiful string of 4 bright oval galaxies.” Shining at magnitude 11.4, these should readily be seen in smaller scopes.

Another bright and clear dawn.....yawwwnnn.... I didn't roll out of bed until after 11 am, and even then took a nice nap in the afternoon. This was one lazy day due to accumulated photon fatigue. Late afternoon, there was a commotion a few feet from my scope, and we got to see our first [tarantula](#) slowly winding its way across the observing field. Wow – you don't get that every day back in Michigan.

As the evening deepened there was not a cloud in sight with the wind out of the southeast at about 1 to 4 mph. There was some dirt in the air coloring the last 5 degrees of the sunset along the horizon. Fans were starting to hum and banter was along the lines of “you didn't come this far to sleep did you?” I took a stroll around the observing fields and met new and old friends alike. It was very peaceful, and yet purposeful as folks fired up their computers or laid out maps with a single-

Tuesday, September 19

Another bright and clear dawn.....yawwwwnnn.

While Wendy went into the metropolis of Kenton (it's easily close enough to walk), I grabbed the camera and headed up to circumnavigate the observing fields by hiking up and down the small mesas surrounding the camp. I saw no nasty snakes, but did run across one curious chameleon-type lizard that eyed me for a few minutes before scampering into a hole in the rocks. It was another gorgeous day, bright and clear – warm enough for shorts, but not hot by any means.

It turned out to be a wonderful clear night – perhaps the best yet. There was only a slight wind with a temperature around 50°F. It was very dark and transparent. One intrepid observer counted 13 stars in the Pleiades naked eye!



I again concentrated on Hickson galaxy clusters, but decided to go after some Abell planetaries as well. These were quite challenging, to say the least. I bagged Abells 43 (mag 14.7), 61 (mag 14.4), 70 (mag 14.3), and 74 (mag 12.2). My favorite was Abell 43 (shown). Although [A74](#) in Vulpecula was the brightest, it was the most difficult as it is large and spread out over a relatively large field of view.

Wednesday, September 20

I really slept in on Wednesday morning as it was an all-nighter Tuesday night. It was windy, and clouds were moving in by the time I got up for lunch. The forecast wasn't looking too hot for the night, so we decided to go sightseeing. About an hours drive away near Clayton, New Mexico a dinosaur track way was unearthed during dam construction – so off we went. There were literally hundreds of tracks in various states of preservation. Shown you can see me treading in the footsteps of giants.

The forecast for the overnight and early Thursday steadily deteriorated, calling for wind and rain. Having experience with NSP, I packed everything away except for our backpacking tent. I felt rather conspicuous, but I really like my equipment and I didn't want to chase it into Kansas. Thus prepared, we hit the sack early under cloudy skies.

Thursday, September 21

We slept so soundly that we didn't hear the rainfall during the night. We awoke to cloudy skies, intermittent rain, and wind that only grew stronger as the morning progressed. It eventually gusted to 70+ mph – yep, hurricane force winds. We were right on the inside edge of a passing very low depression. There were shredded tents, motor home canopies, and tipped scopes all over the observing field – including and up to several 20" Obsessions showing their undercarriages. I helped many people secure or take down their scopes. Luckily, I don't think there was any major damage to optics and there are a few wiser people that will pay closer attention to forecasts in the future. People thought I was prescient – I just retorted that I had been through these before, on the losing end in one case.



By 4pm the winds had abated, but not the skies. There was an early bird prize drawing Thursday evening, so Wendy & I decided to stay for that, then hit the road for a two day drive back home. Unlike Mark and Doug, I don't win prizes and that night was no exception.

Afterthoughts

This star party is a long drive from Ann Arbor – but for me was worth every boring minute of it. The skies are about as good as they get in the continental US. The weather gave us 4 nights in a row of superb viewing that could only be better if the seeing had improved. This star party is now on my annual list. It is later in the year, the weather is cooler, and the roads are less crowded. We met many wonderful people, and made many new friends. Lowbrows: mark your calendars for the 24th Annual OTSP to be held October 6-14, 2007.

For Sale

Karrie Charles, a friend of the SAAA is selling a Celestron 114 FirstScope (pictured at right).

Purchased new in 1998, includes original box, packaging, eyepieces and sky map. Features a wood Alt. Azimuth tripod.

Asking \$100.

If interested, contact Karrie (616) 335-8218

