



The Warren Astronomical Society Paper

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www.boonhill.net/was

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2004 WAS OFFICERS

\\ August 2004

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 2nd VP (observatory chairperson)
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The WASP (*Warren Astronomical Society Paper*) is the official monthly publication of the Society. Each new issue of the WASP is mailed to each member and/or available online www.boonhill.net/was. Requests by other Astronomy clubs to receive the WASP, and all other correspondence should be addressed to the editor, Cliff Jones, email: cliffordj@ameritech.net

Articles for inclusion in the WASP are strongly encouraged and should be submitted to the editor on or before the first of each month. Any format of submission is accepted, however the easiest forms for this editor to use are plain text files. Most popular graphics formats are acceptable. Materials can be submitted either in printed form in person or via US Mail, or preferably, electronically via direct modem connection or email to the editor.

Disclaimer: The articles presented herein represent the opinions of the authors and are not necessarily the opinions of the WASP or the editor. The WASP reserves the right to deny publication of any submission.



Astro Chatter

by Larry Kalinowski

You're probably tired of hearing about June's Venus transit by now, but I have to show you some of the pictures I received from various members of the club over the last few weeks. The pictures show the black drop effect as recorded by each member. I hope the contributors don't mind, but I had to enlarge, rotate and crop the pictures to produce an equal presentation. The pictures were taken by Ken Wilson (a past charter member), Roger Civic, Vince Chrisman and Richard Gossett. Take a look at the black drop

effect in each picture and see if any conclusions come to mind. Vince's picture seems to show the effect the best (the connection is darker between the Sun's edge and Venus). However, that could be the result of processing too. The final images, as they appear in our newsletter, after printing and recopying, may not show the same result. All three pictures show some distortion of the planet. Those of you that get the newsletter mailed to them will only see black and white pictures, If you want to see them in color, go to our website and bring up the WASP. If you want particulars about exposures or camera types, you'll have to contact the members for that information.



Wilson



Civic



Chrisman



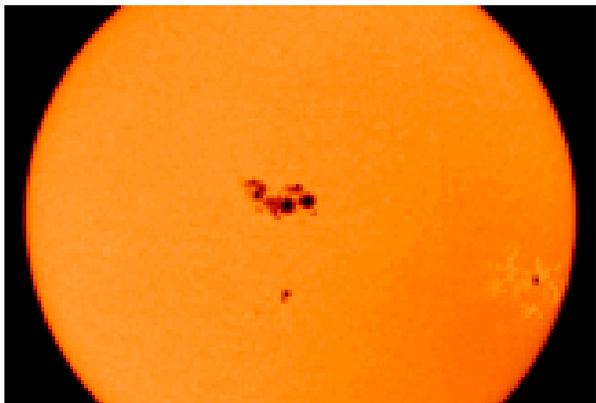
Gossett

August is the month for the Persied meteor shower. Known for bright meteors, falling as much as 50 to 100 meteors and hour, the night of August 11th and the morning of the 12th, usually attracts thousands of observers around the world. The Moon will co-operate to some extent this year because it'll be about a week before new Moon. In the past, a group has always met at Stargate Observatory for observing the event. Contact Riyad Matti, our observatory chairman, for information about meeting there this year. August 11 is a Wednesday.



Stephan Hawking, the well known mathematician and astrophysicist, who now occupies the seat that Newton once commanded, apologized to his science fiction fans because of a revision in his theory on black holes. In a presentation at a Dublin, Ireland convention, he expressed that after thirty years of research, he has come to the conclusion that there are no parallel universes or worm holes for astronauts to slip into another time and place. He claims that black holes just eventually dissipate their absorbed mass and energy into the universe after a length of time. That material is transformed into some other form and spread throughout the universe.

Sunspots are making news again. The picture shown in this article was taken on July 23. It shows a large group, nearly twenty times the size of the Earth, which could easily be seen without optical aid. A 4 or 5 ND photographic filter or a number 12 or 13 welder's glass is required to view the Sun safely.



Alan Rothenberg and Jim Ehlers presentation at the Cranbrook meeting was an excellent essay on bringing an Alvin Clark refractor back to life. The program contained numerous shots of the building

the 'scope is housed in and the steps gone through to bring it back into an esthetically working condition.

Alan Kaplan's presentation at Macomb College was an extensive discussion on globular clusters. There's more to clusters than just a bunch of stars. Those clusters are probably as old as the galaxy itself and hold many secrets in our galaxy's development.

The speakers for August are Riyad Matti and Gary Ross. Both are long time amateur astronomers that have graduated to advanced or even semi-professional Status. Riyad, our present Stargate Vice-president, also has a preference for refractors and at the drop of a hat, is quite willing to tell you about the disadvantages of reflectors. His talk is at the Cranbrook Science Museum, on August 2, the first Monday of the month. Gary, a past member of the Detroit society is now a member of the Grand Rapids Society, where he honed his observing on variable stars for the AAVSO. He is Michigan's second most prolific contributor to the variable star group. You all know who the first is, our own Mike Simonsen. Gary will be talking about Will Hay, formally known as William Thompson Hay, a dark horse in astronomy. His talk is scheduled for the MCCC meeting on Aug 19.

The club picnic was quite a success. About twenty-five attended from the club and another thirty or so from the Cub Scouts that were camping at the camp on Saturday, July 17. The skies bobbed from partly cloudy to complete overcast and by the time twilight rolled around, it looked like a short rain was going to cancel the evening for observing. Then the clouds parted in the north and northwest and there was a promise of pulling the telescopes out of the cars. There was plenty of food for everyone and the social life thrived while clouds played with anticipation.

The August computer group meeting is scheduled for August 26, (the fourth Thursday of the month) at Gary Gathen's home in Pleasant Ridge. He lives at 21 Elm Park Rd., three blocks south of I-696 and about a half block west of Woodward Ave. Meetings will start at 8:00 pm. You can reach him at 248-543-3366, or me, at 586-776-9720 for any further information.



MINUTES OF MEETINGS
Cranbrook July 5, 2004
By Bob Watt

Meeting Started at 7:35 PM
Members Present 32

Visitors: Pat McDermott, Shayla & Sean, Bill Carson, & David, Dale Partin, Ron Hampson.

President Ken Bertin welcomed the visitors & explained the equipment our club has for their use. 1st Vice President Norman Dillard, went over the speakers list for 2004 & 2005. 2nd Vice President Riyad Matti, went over the use of the log books at Stargate, there are two books one for use of the observatory & one for maintenance at the observatory. Treasurer Jim Shedlowsky, handed out members membership cards, covered items for sale at the picnic on July 17.

Sub groups, Computer Group, the meetings are held at Gary Gathen's home on the 4th thursday of the month. Planetary Group, first meeting will be at Stargate on July 17. Solar, will meet at Stargate on July 17, Beginners Group, Riyad will have a meeting at Stargate on July 17 & monthly at new moon.

New products: Alan Rothenberg showed a new eyepiece case that lights up, price \$200.00.

Observations: While viewing at Stargate the viewers saw a Russian orbiter break up & enter the atmosphere, quite a show!!

The break was at 8:45PM

Tonights speakers were Alan Rothenberg & Jim Ellers, the subject was on restoring the Alvin Clark 8 1/4" refractor, at Albion College, built in 1880. The program was well done.

Meeting ended at 10:00PM

MINUTES OF MEETINGS
Macomb July 15, 2004
By Bob Watt

Meeting Started at 7:30 PM
Members Present 33

Visitors: Mary Hampson & Tom Peoples.

Officers Reports: President Ken Bertin, went over the details for the picnic on July 17.

1st Vice President Norman Dillard, went over the dates & speakers for upcoming meetings.

2nd Vice President Riyad Matti, asked for ideas on the picnic covering food, amounts, the swap meet, & the timing of speakers. The starting time for the picnic is 2:00PM.

Secretary Bob Watt, no report, these minutes will take the place of a report.

Treasurer Jim Shedlowsky, handed out membership cards. Blaine McCullough has offered to help Jim by doing the 50/50 draw. Jim has come up with a good idea, when you purchase a subscription to Astronomy or Sky & Telescope through the club how about giving \$1 or \$2 out of your savings back to the club.

Donations received: An astronomical 6 VHS set of tapes, "The great courses" by Alex Silippenko given to our library by Richard Gala. Six astronomical handbooks, given by Ed Cressman.

The Break was at 8:55PM

Tonights program is presented by Alan Kaplan, "GLOBULAR CLUSTERS, INTO THE THICK OF THINGS" A well done presentation. The beautiful graphics were done by Cheryl Kaplan, well done.

Meeting ended at 10:00PM

THE SWAPSHOP



NOTE: The past ads for Mike Best's telescopes used the wrong e-mail address. If you tried to contact him in the past, try again with the new address shown.

This column is for those who are interested in buying, trading or selling items. Call 586-776-9720 (cometman@mybluelight.com) if you want to put an item for sale or trade in this section of the WASP. The ad will run for six months. The month and year, the ad will be removed, is also shown.

FOR SALE. ETX90, with goto feature, in excellent condition, hardly used. I want a bigger

telescope. Norman Dillard. Work phone: 248-546-1480 Cell phone: 248-765-4815. (10-04).

WANTED. NIMH battery for An IBM Thinkpad, model 702C. New or used. Needed for WAS portable computer. Contact Jim Shedlowski, jimskeebros@cs.com. (10-04).

FOR SALE. Celestron, 8 in. Schmidt Cassagrain, 9 volt electric drive, PEC (periodic error correction), four speed quartz drive, heavy duty aluminum adjustable tripod, enhanced coatings and carrying trunk. Best offer over \$699.95. starmikebest@comcast.net. (8-04).

FOR SALE. Classic 6 in. Criterion RV-6 Dynascope., Newtonian reflector, 110v AC electric drive, aluminum pier with three feet, 6x30 two ring finder and rotating tube. Best offer over \$400. starmikebest@comcast.net. (8-04).

FOR SALE. Refractor, 3 in., metal tube, 1 1/2 in. two ring finder scope, 2 in. tracking erecting eyepiece telescope, Eastman Kodak Aero-Ektar 7.12 in. (178mm) f.l., 5x5, F2.5 camera #EM6294 (\$150 estimated value), AC heated dew shield for the 2 in. tracking scope, wood, heavy duty, surveyors tripod, two fitted wooden cases, two boxes of machine equipment tools for telescope construction. No mount. Best offer over \$475. Starmikebest@comcast.net. (8-04).

FOR SALE. Mirror cell for ten inch mirror. Plywood, very light weight. Fits 12in. ID tubes or larger with longer bolts. \$10.00. 586-776-9720. (12-04).

FOR SALE. Four vane spider, for diagonal bolts 3/8 in dia. or smaller. Fits 12 1/2 in. ID tubes or larger with longer bolts. \$10.00. 586-776-9720. (12-04).

The WAS Library lives at Macomb where the meetings are. It's open during the Macomb meetings. Most of the open time is at the break, but it's usually open for a few minutes before and after the meeting. Come prepared. A list of books is available on the WAS web site: <http://www.boonhill.net/was/iwlib.html>

In addition to books, there are several VHS tapes. While I've seen most of the hard science, I've just recently watched the movie of Jules Verne's book,

From The Earth To The Moon. The movie starts out adhering very closely to the book. Then just a little Hollywood is introduced. Hollywood has to have a beautiful woman involved for distraction. Naturally, she boards the rocket (cannon shell), though they don't say how she survives launch. A little suspension of disbelief is called for. This is generally true for Verne's books as well. The WAS library doesn't have a paper copy, but you can download the free text from Project Gutenberg: <http://www.gutenberg.net/etext/83> This has the English translation of the original French: De la terre à la lune and Autour de la lune.

Contributed by Stephen Uitti



If you are near-by or far-by stop by Rider's for their Thursday night Star Party (Weather Permitting)



Now stocking Vixen telescopes and accessories.

See the new "Sphinx" Go To Mount with the world's first LCD screen star chart controller.

Now taking orders for the new Meade LXD75 telescopes.

Star Party every clear Thursday from our front parking lot starting at dusk.

***For more information call: (734) 425-9720
Ask for John or Dan***

August Calendar

Monday, Aug 2 • 8:00 am: Moon passes 4° south of Uranus

Wednesday, Aug 4 • 6:00 am: Asteroid Psyche is at opposition

Thursday, Aug 5 • 11:00 pm: Neptune is at opposition

Saturday, Aug 7 • 6:01 pm: Last Quarter Moon; 7:00 pm: Mars is at aphelion (154.9 million miles from the Sun)

Wednesday, Aug 11 • 5:33 am: The Moon is at apogee (251,837 miles from Earth); 7:00 pm: The Moon passes 8° north of Venus

Thursday, Aug 12 • Perseid meteor Shower peaks

Friday, Aug 13 • 5:00 am: The Moon passes 5° north of Saturn

Sunday, Aug 15 • 9:24 pm: New Moon

Monday, Aug 16 • 11:00 pm: Mercury passes 6° south of Mars

Tuesday, Aug 17 • 3:00 pm: Venus is at greatest western elongation (46°)

Wednesday, Aug 18 • 1:00 am: The moon passes 3° north of Jupiter

Monday, Aug 23 • 6:12 am: First Quarter Moon; 5:00 pm: Mercury is in inferior conjunction

Friday, Aug 27 • 1:38 am: The Moon is at perigee (226,866 miles from Earth); 3:00 pm: Uranus is at opposition

Saturday, Aug 28 • 5:00 am: The Moon passes 5° south of Neptune

Sunday, Aug 29 • 4:00 pm: The Moon passes 4° south of Uranus; 10:22 pm: Full Moon

Monday, Aug 31 • 9:00 pm: Venus passes 1.9° south of Saturn

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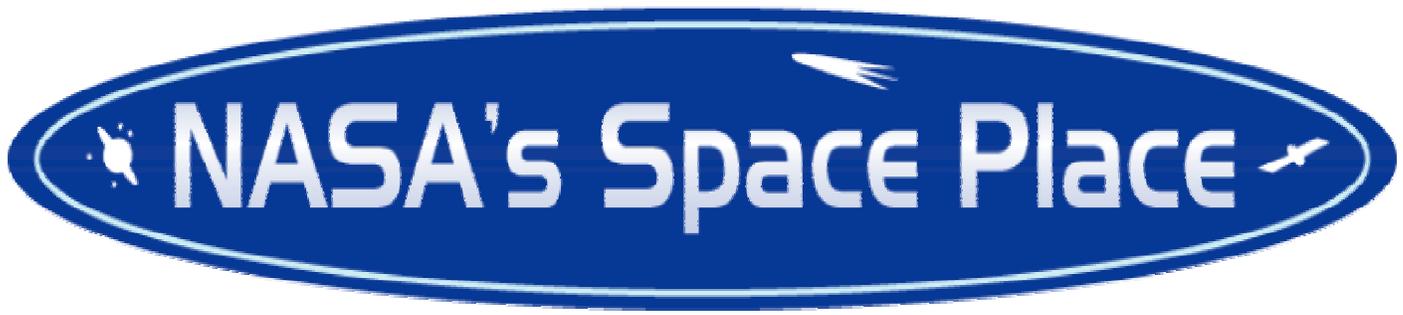
SCHEDULED SPEAKERS

DATE	DAY	PRESENTER	SUBJECT
8/2/2004	MON	Riyad Matti	TBA
8/19/2004	THU	Gary Ross	Will Thompson Hay
9/13/2004	MON	Phil Martin	Quantum Mechanics
9/16/2004	THU	Ed Starback	Pluto
10/4/2004	MON	Tom Hagen	McMath-Hulbert Observatory
10/21/2004	THU	Steve Uitti	CUSKY
11/1/2004	MON	Planetarium	Cranbrook Sky Show
11/18/2004	THU	Dave D'Onofrio	Processing CD Images
12/6/2004	MON	Richard Szumanski	Meteors/Comets/Deep Sky
12/16/2004	THU	Fred Espenak-NASA	Eclipses

UPCOMING WAS EVENTS

Aug	Mon 2	7:30 pm	Cranbrook Meeting
	Thurs 19	7:30 pm	Macomb Meeting
Sep	Mon 6	7:30 pm	Cranbrook Meeting
	Thurs 16	7:30 pm	Macomb Meeting
Oct	Mon 4	7:30 pm	Cranbrook Meeting
	Thurs 21	7:30 pm	Macomb Meeting
Nov	Mon 1	7:30 pm	Cranbrook Meeting
	Thurs 18	7:30 pm	Macomb Meeting
Dec	Mon 6	7:30 pm	Cranbrook Meeting
	Thurs 16	7:30 pm	Holiday Awards Banquet





Article Compliments of Nancy Leon of JPL/NASA

Waiting for Cassini's "Safe Arrival" Call

The evening of June 30, 2004, was nail-biting time at Cassini Mission Control. After a seven-year journey that included gravity assist flybys of Venus, Earth, and Jupiter, Cassini had finally arrived at Saturn. A 96-minute burn of its main engine would slow it down enough to be captured into orbit by Saturn's powerful gravitational field. Too short a burn and Cassini would keep going toward the outer reaches of the solar system. Too long a burn and the orbit would be too close and fuel reserves exhausted.

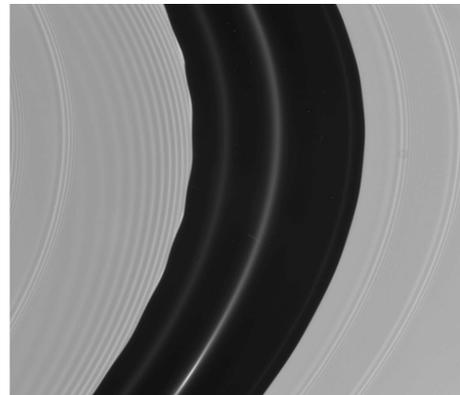
According to Dave Doody, a Cassini Mission Controller at the Jet Propulsion Laboratory (JPL) in Pasadena, California, there was a good chance the Earth-bound Cassini crew would have to wait hours to learn whether or not the burn was successful. Of the three spacecraft-tracking Deep Space Network (DSN) complexes around the globe, the complex in Canberra, Australia, was in line to receive Cassini's signal shortly after the beginning of the burn. However, winds of up to 90 kilometers per hour had been forecast. In such winds, the DSN's huge dish antennas must be locked into position pointed straight up and cannot be used to track a tiny spacecraft a billion miles away as Earth turns on its axis. "The winds never came," notes Doody. The DSN complex at Goldstone, California, was tracking the carrier signal from Cassini's low-gain antenna (LGA) when the telltale Doppler shift in the LGA signal was seen, indicating the sudden deceleration of the spacecraft from the successful ignition of the main engine. Soon thereafter, however, Goldstone rotated out of range and Canberra took the watch. After completion of the burn, Cassini was programmed to make a 20-second "call home" using its high-gain antenna (HGA). Although this HGA signal would contain detailed data on the health of the spacecraft, mission controllers would consider it a bonus if any of that data were actually captured. Mostly, they just wanted to see the increase in signal strength to show the HGA was pointed toward Earth and be able to determine the spacecraft's speed from the Doppler data. If possible, they also wanted to try to lock onto the signal with DSN's closed-loop receiver, a necessary step for extracting engineering data.

Normally it takes around one minute to establish a lock on the HGA signal once a DSN station rotates into range. Having only 20 second's worth of signal to work with, the DSN not only established a lock within just a few seconds, but extracted a considerable amount of telemetry during the remaining seconds

"The DSN people bent over backwards to get a lock on that telemetry signal. And they weren't just depending on the technology. They really know how to get flawless performance out of it. They were awesome," remarks Doody.

Find out more about the DSN from JPL's popular training document for mission controllers, Basics of Space Flight (www.jpl.nasa.gov/basics) and the DSN website at deepspace.jpl.nasa.gov/dsn. For details of the Cassini Saturn orbit insertion, see www.jpl.nasa.gov/basics/soi. Kids can check out The Space Place at spaceplace.nasa.gov/en/kids/dsn_fact1.shtml to learn about the amazing ability of the DSN antennas to detect the tiniest spacecraft signals.

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



Right after entering Saturn orbit, Cassini sent this image of the part of the Encke Gap in Saturn's rings. Image credit NASA/JPL/Space Science Institute.

One Thousand Six Hundred And Seventy Miles To Darkness

by
Dr. Philip D. Martin

I started riding in 1992, buying a BMW K75. Within a year I was off on my first cross country trip; Troy, Michigan, to Banff, in the Canadian Rockies, for a week of backpacking (backpacking was one of my other hobbies). After that first trip, it was off every summer, visiting my kids in Sacramento some years, backpacking in Arches National Park, Yellowstone, or Yosemite, other years. The K75 bit the dust in 1994 in December when a lady pulled out from a side street right in front of me. Blam! Crash! No more bike!

Fortunately, I survived with only minor injuries, and used the insurance money as a down payment on a new 1994 BMW R1100R the very next spring. You can't keep a good biker down too long. While I love the west, I thought in 2001 about taking a trip out east; but where? I'd been up in Vermont and New Hampshire on various trips to scientific meetings (I'm a biophysicist at Wayne State University in Detroit) and loved the ride, but still liked it out west most. After thinking a bit, I thought, "Why not go see a shuttle launch in Florida!" Then, a ride from there down the Florida Keys to Key West. After a bit of investigation and letter writing, I got a ticket to the STS-105 launch at Cape Kennedy in Florida. As it happened, before 9/11 you could get passes to watch launches right at the Kennedy Space Center. When you see all those pictures of people in grandstands watching shuttle launches, that is right at the space center, but still miles from the launch pad. After all, as safe as they try to make things, you can't have an accident at the launch site take out innocent bystanders!

So I thought, "I need a small telescope to view the launch; something small enough to transport on my bike." Also, I had always been interested in astronomy (I don't know a single scientist who isn't), but every time I borrowed someone's scope I could never find anything and soon got frustrated. I would kill two birds with one stone. After some web searching I found exactly what I needed; a Meade ETX-60 AT. It is a goto scope with its own computer (I exist on computers; I build my own Linux boxes for work and home). I had no idea astronomy could be so simple! The very first night I took it out was such a breeze. Point the thing north, level it, and go. Center two stars, and you have the whole sky to explore within a few minutes. Wow!

That very night I saw my first globular cluster; M13 (even in the extremely light polluted parking lot of my apartment complex). It was so exciting I can't put it into words. Then throughout that spring, I saw Jupiter and its four large moons, Saturn, M31, Mars (during a dust storm; I was disappointed I couldn't see any planetary features), and many other great sites.

Later that year I discovered that there were things called "Star Parties"! My god, would my wonder never end! So, in the fall of 2001, I combined two of my hobbies; astronomy and cross country biking. I never did get to STS-105. The launch was postponed, and I had to go to the Advanced Photon Source in Chicago to do some synchrotron experiments by the time it did launch in August. But I did register for my very first star party; the Enchanted Skies Star Party in Socorro, New Mexico, in October of that year.

I packed the ETX-60 and tripod, along with a weeks worth of clothing and gear, on the back of my R1100R, and headed for New Mexico. The fall ride was spectacular. Leaving Michigan, fall colors were already done, and it was cold. But down through Missouri and Oklahoma the trees were spectacular. Not to mention a whole lot warmer! While I needed my heated vest and chaps through Michigan, I was able to shed these things for much lighter clothes the further south, and west, I got.

Now, having ridden it before, I never pass up a chance to ride I-70 through Colorado. To me, it is the most spectacular bike ride in the country while staying on an interstate. You go up into the mountains leaving Denver and through the Eisenhower tunnel at over 11,000 feet (I've been through there on my bike during an absolute white out snow storm in June and November). I stayed with some friends in Montrose, CO, and got my first taste of a truly dark sky. The ETX wanted to go to a star called Fomahault (I had never heard of it before). But the sky was so dark I couldn't pick it out as the brightest star against the background sky. All the stars were really bright! In my light polluted apartment parking lot the only stars visible were the brightest stars.

From Montrose, the 550 south to Durango is a spectacular ride through some of the most beautiful mountains in the country. There are three separate passes and some of the best switch backs and twisties that I've ever ridden. From Durango highway 160 leads west into Cortez, CO, close to Mesa Verde. What a side trip! The Anasazi ruins

were incredible. It was late in the year and only some of the ruins were available for tourists. But what I was able to see was unbelievable.

From there, down 666 into New Mexico through Shiprock and Gallup, onto I-40 east to Albuquerque (my favorite city in the US), and south on I-25 to Socorro, and the star party. I met a whole bunch of new friends at the star party, and saw sites I'd never seen before through my own telescope. To my utter surprise everyone I met was happy to let me view the skies through their own telescopes. Wow! To list all the things I saw would be too much, so I will tell you about some of the most memorable experiences.

The daily seminars were all very interesting (held at New Mexico Tech). The second day there (the skies in New Mexico were clear, brilliant, and almost cloudless every day that year) a fellow had an Astro-Physics 130 mm StarFire with a Coronado hydrogen-alpha filter set up outside. Good heavens, I could actually see prominences on the sun! I spent at least an hour observing bright spots appear and disappear. I inquired about eyepieces, which I knew nothing about, and heard over and over again, Nagler. I went into the dealer tables and found a 16mm Nagler Type 5, bought it (paid more than I paid for the entire scope setup!), and went back outside to use it to get even more spectacular views of the sun through H-alpha.

During the time there I found that the Nagler, even on my small achromatic, gave me absolutely wonderful views (I've heard since that a good eyepiece can make up a lot for marginal scope optics). I saw the Ring nebula, with its central star, through the universities 20" Dob, and saw the computerized Celestron 14 on a Paramount GT-1100 fitted with an SBIG ST-8, in action (I decided then and there that I had to get into CCD photography).

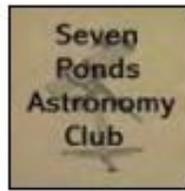
While there, there are great day trips to the VLA, Chaco Canyon, Trinity Site (seldom open to the public), and Mt. Baldy. I met great new friends on the VLA trip, and arranged to get a ride out to the Pound Ranch (my bike is not a good dirt bike, and the Pound Ranch road is kind of dangerous on a bike at night).

On the last night there (actually, you can go to the ranch anytime there, but they have practically no facilities at the site) everyone adjourns to the Pound Ranch from the Etscorn Campus Observatory for a good old fashioned chuck wagon barbeque (and some really dark skies). The food was great (there's even a singing cowboy), and then there are super stories about how the ancient New Mexico Native Americans needed and used astronomical observations to determine things like planting times and the like, as well as their superstitions about such things as are seen in the New Mexico night skies.

As the sun sets, the sky become increasingly dark until it is absolutely pitch black. But the star light is bright enough to see by. Only a very faint, small glow, can be seen in the north from Albuquerque. I set up my ETX-60 near some new friends, and proceeded to enjoy the sites. One of the guys showed me the Orion nebula through my very own Nagler and his Meade 12.5" Schmidt-Cassegrain, and an OIII filter. All I could say was, "Spectacular!"

I left for home the next day; I had been bitten by the astronomy bug as hard as by the motorcycle bug. I soon got a Meade 8" LX200 and began experimenting with web cam photography. This was followed by an equatorial wedge and an SBIG ST-7 CCD, and I started learning how to use that (the first three months I thought it was broken because I couldn't get any decent pictures!). You can see my stuff at <http://home.comcast.net/~pmartin173187/>. I went back to Socorro the following year, unfortunately, not on my bike. I now have too much "stuff" to haul around. This was followed by the Texas Star Party, where I developed aperture fever; I bought a CGE1100 and am just now learning how to get decent images with that. Then the Winter Star Party in Florida this year (2004). I also piggybacked a Takahashi FS-78 on the CGE1100 for wide shots. At times, the views I get through the little Tak are better and crisper than through the big CGE1100. I thought I was in telescope pig heaven until I went to Florida. Then I saw (and observed through) a couple of big Ritchey-Chretien reflectors, and through some big Taks and StarFires. I realized I'm just small potatoes compared to some.

Now, I'd like to get a big, big trailer to haul both my bike and my "astronomy stuff" around the country, but that's more money than I have to spend. So, I still pop my ETX-60 on my bike whenever I go on long bike trips. And I leave my Chevy Blazer packed with the CGE1100, and all the associated paraphernalia, all summer, in case we get a clear weekend in Michigan (this year? Good luck my friend!). Being bitten by the motorcycle and astronomy bugs have left me with a great number of incredible memories – and pictures. I couldn't be happier with the two hobbies.



PRESENTS

**The 2nd Annual
CADILLAC WEST –
HALLOWEEN STAR PARTY**

(no dress up)



Oct. 14 – 17, 2004

Hosted By: Bill Beers (Warren Astronomical Society)
Located 14 Miles West of Cadillac Mich. at Bill Beers Cabin (RSVP for Map)

*****DARK SKIES*****

****Saturday Barbecue****

Accommodations Available:

Limited Floor Space in Cabin
Plenty of Space for Tents/Campers
Best Value Inn (231-775-2458) 12 miles east
Driftwood Lodge (231-775-2932) 12 miles east
Caberfae Peaks (231-862-3300) 1 mile east

----- A/C POWER AVAILABLE -----
(Donations accepted)

¹ For More Info Contact: Bill Beers Phone #586-566-8367 or E-mail "BEEZOLL@aol.com"
John Lines Phone #248-969-2790 or E-mail "JELINES@yahoo.com"
Doug Bock E-mail "DBOCK1@chartermi.net"

(PLEASE RSVP IF YOU ARE THINKING OF ATTENDING)

**** This will be a "Hunt for the Witch head Nebula" event ****



IC 2118