



## The Warren Astronomical Society Paper

P.O. Box 1505

Warren, Michigan 48090-1505

[www.boonhill.net/was](http://www.boonhill.net/was)

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**2004 WAS OFFICERS**

\\ November 2004

President

Ken Bertin

email: [szygie@aol.com](mailto:szygie@aol.com)

1<sup>st</sup> VP (program chairperson)

Norm Dillard

email: [jupiter1927@aol.com](mailto:jupiter1927@aol.com)

2<sup>nd</sup> VP (observatory chairperson)

Riyad Matti

email: [riyadmatti@yahoo.com](mailto:riyadmatti@yahoo.com)

Secretary

Bob Watt

email: [rdwatt@comcast.net](mailto:rdwatt@comcast.net)

Treasurer

Jim Shedlowsky

email: [jimskeebros@cs.com](mailto:jimskeebros@cs.com)

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](http://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](mailto: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.

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### Astro Chatter

by Larry Kalinowski

A spectacular conjunction of Venus and Jupiter will occur early, on November 4. Both planets rise about three hours before the Sun, Closest approach will occur about 45 minutes before sunrise, so the event will take place in twilight, here in the Detroit metro area. With magnitudes of  $-4$  and  $-1.7$ , The pair should be striking in a telescope and even with the naked eye. They'll be slightly less than one degree apart during closest approach, so you'll be able to capture both planets at the same time, in your telescope. Photos of the event will, no doubt, be splattered all over the amateur astronomy magazines for months to come.

If you're up to a challenge, you can catch a rather interesting daytime event on November 9. Jupiter and the Moon will put on a show that will be visible even in broad daylight, if the sky conditions are right. Set up around 10:30 AM to catch the entire event. It'll take a deep blue sky for optimum

conditions. You'll be able to watch ol' Jupe disappear behind the sunlit portion of the Moon, taking about a minute to slowly disappear. About an hour, or so, later it'll pop back out, taking about another minute. This event will be harder to photograph because of the lack of contrast between planet, Moon and sky, but it can be done. Venus, with her face nearly four times brighter, will be seen about five or six degrees to the left of the Moon.

Space Ship One, with Mike Melvill on board, accomplished another flight into space on September 29. It was another attempt to capture the ten million dollar award for being the first private group to get three people into space and back within two weeks. The other two passengers were simulated with ballast, like sand bags or other weights. The flight was not without incident. Ground controllers actually commanded Mike to abort the attempt because of excessive rolling of the vehicle as it approached the required 62 mile altitude. You'll recall that rolling was a problem during its last flight because of a bent support for the rocket.

Just what caused the rolling this time, wasn't mentioned. The graphic shows the rocket starting after it was let go from the mother plane.



On October 3, the second attempt was made by Brian Binnie and was deemed successful. So it looks like the ten million, Ansari X prize is going to the company that built and tested Space Ship One. This one will be in the history books as the first private company to reach into space. According to Mike Narlock, head of astronomy at The Cranbrook Institute Of Science, these two are the Wright brothers of the twenty-first century.

Speakers for November feature Jack Szymanski and Dave D'Onofrio. Jack will present his latest DOAA slide presentation entitled First Point In Aries. It features Gary Ross, of the GRAAA, as an amateur astronomer, that discovers how anyone can afford a fine telescope, back in the late 19th century. Also featured are astro photos by Gary, Jack and Mark Christensen of the Fox Valley Astronomical Society. Jack's presentation will be on November 1 at the Cranbrook Science Museum auditorium. He promises that there will not be any CCD photos enhanced to ridiculousness. High fidelity and stereo sound are included at no cost.

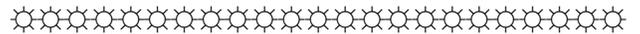
David D'Onofrio is a member of the WAS that promises nothing but CCD pictures and how to process and manipulate them, giving you the opportunity to enhance photos to unbelievable heights. It's his third lecture in a series about CCD photography. Dave's lecture series continues at the MCCC meeting, on November 18. Don't miss it.

The roof of our observatory has been covered with a fresh, new coat of tar around the dome. Tar was placed around and underneath the adjoining shingles, as well as renailling many of the shingles that had loosened. The job isn't quite finished yet but you can bet Riyadh (Tar Man) Matti will get it done.

The election of officers for 2005 took place at the October Macomb meeting. Our illustrious president

(Ken Bertin) decided to run again, as well as 1st V.P. (Norman Dillard), 2nd V.P. (Riyad Matti), treasurer (Jim Shedlowski) and the only new addition to our officers is the secretary (Bob Berta).

The November computer group meeting is scheduled for November 25, (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.



### THE SWAPSHOP



This column is for those who are interested in buying, trading or selling items. Call 586-776-9720 ([cometman@mybluelight.com](mailto: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.

**WANTED. 12 1/2 inch aluminum mirror cell. Call Bob Watt at 586-757-4741. (2-05).**

**WANTED. A 3.1 inch F-15 refractor (tube assembly only) for a photographic guide 'scope. Would prefer a Meade ('80's vintage) or Unitron. Jim Ehlers, 248-628-1615 or e-mail ehlers71@comcast.net. (2-05).**

**FOR SALE. Celestron C102 HD, 4 inch, F-9 refractor. Comes complete with star diagonal and 20mm eyepiece (standard issue). Very good condition! Asking \$265. Jim Ehlers, 248-628-1615 or e-mail ehlers71@comcast.net. (2-05).**

### MIKE SLASHES PRICES IN HALF!

**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. \$200. [starmikebest@comcast.net](mailto:starmikebest@comcast.net). (10-04).**

**FOR SALE. Refractor, 3 in., metal tube, 1 1/2 in. two ring finder scope, Eastman Kodak Aero-Ektar 7.12 in. (178mm) f.l., 5x5, F2.5 camera**

#EM6294 (\$150 estimated value), No mount.  
\$237. Starmikebest@comcast.net. (10-04).

**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).**



## **Minutes Of Meetings Cranbrook 10/04/04 By Bob Watt**

Members: 37, Visitors: Tom Hagan, Dave Benham, Jose Torres & Less.

Meeting started at 7:30 PM.

President, Ken Bertin opened the meeting on note that elections will be held at the Macomb meeting.

### **Officer Reports:**

First Vice President, Norman Dillard, asked for program speakers then went over the speaker list.

Second Vice President, Riyad Matti: The observatory roof work is done. The setting circles are in need of some work. The 22" scope will be at Bill Beers for the star party up north. The open house list is available on the WAS net.

Treasurer, Jim Shedlowski: The calendars are in and for sale for \$6.00 each. There is a membership warning list and a dead file to let members know when their memberships are due. There is a saving on the way when we do our checking accounts.

Special events: There will be a Lunar eclipse on 10/27. We need telescopes for the event.

Break: 8:45 PM

Tonights speaker is Tom Hagen. His topic is on the McMath-Hulbert Solar Observatory. Well Done!

The Meeting ended at 10:10 PM.

## **Minutes Of Meetings Cont'd Cranbrook 10/21/04 By Bob Watt**

Board Meeting at Macomb 10/21/04 Meeting Started at 6:50 PM. All officers were present.

We went over the details for the Awards Banquet in Dec., tickets are printed, menu has been submitted, speaker has been contacted, all the hall details have worked out. We are planning to add two officer positions to our roster, "Members At Large." They will be the go betweens for all the sub-groups.

Meeting ended at 7:30 PM

## **General Meeting**

Members 35, Visitors: Larry Phipps

Meeting Started at 7:40 PM

President Ken Bertin opened the meeting with officer reports.

First Vice President Norman Dillard: Stephen Uitti will speak on "Kluski."

Second Vice President Riyad Matti: On 10/27/04 there is going to be a Lunar eclipse at Stargate, rain or shine. We will need scopes

Tonights election was handled by Bill Beers & Vince Chrisman. The officers elected for the next year are: Ken Bertin, President; First Vice President, Norman Dillard; Second Vice President, Riyad Matti; Secretary, Bob Berta; & Treasurer, Jim Shedlowsky.

Macomb Community College will host John Kerry on 10/25/04.

Observations: Bob Berta programed his scope for daylight viewing, heobserved Sirius, Rigel, Procyon, Pollux, Castor, North Star & Saturn.

Tonights Program is "Klusky" by Stephen Uitti: Interesting

Meeting Ended at 10:10 PM.



## AN INTRODUCTION TO SOLAR PHOTOGRAPHY

By Rick Gossett

Sooner or later, every amateur astronomer wishes that they could capture an image through their telescope. Most aim at the Moon first. However, the Sun can be a far more interesting target. Because the Sun rotates, and continually changes in appearance, each view becomes unique.

It cannot be stressed enough that one must NEVER, EVER, look directly at the Sun without proper filtration. Even a brief glance can cause permanent damage to the eye. There are several filters available, and many articles that offer good information as to how to choose. However, if you have purchased a telescope that offers a filter that screws onto the eyepiece, throw it away. Heat may cause the filter to crack, and the risk of blindness is not worth it.

Over the last few years, the digital camera has changed the course of astrophotography. Whole disk imaging has become a relatively simple procedure, as long as a few basic points are considered. Personally, I shoot with a 1.3, and occasionally a 3.2 megapixel camera. Surprisingly, the number of pixels seems to be the least important factor to capturing a sharp image. Here are some of the reasons why.

Any telescope will do, although refractors generally resolve the image more sharply than other types. It helps immensely if the telescope is clock driven, but the drive does not have to be perfectly aligned or precise. I use a spur gear driven drive. It is a poor choice for long exposure photography, but for exposures faster than five minutes, it works just fine, and shooting the Sun requires exposures in the 1/30 to 1/500 second range. A solid, vibration free mount is also a must. I also use anti-vibration pads, and keep the scope shielded from wind as much as possible. Once set up, and aimed, the telescope needs to track the Sun for about 30 minutes. (see figure 1) This will allow it to heat up, which will reduce tube currents and stabilize the image as much as possible. If

the edges of the Solar disk seem to be boiling, wait.



**Figure 1**

The next step is to align the camera to the eyepiece. This is known as afocal projection. Many brackets have been designed to hold the camera in place. I have found the Orion Universal bracket to be the most stable. Set the camera for delayed exposure, and make sure that the flash is turned off. An eyepiece with good eye relief, preferably in the 32-40 mm. range will make it much easier to line up the image to the camera's CCD plane. Use a dark cloth as a shroud to cover the camera and eliminate stray light, which will reduce image contrast. Now you can start shooting. And shoot a lot. Make slight adjustments to the focus after shooting a couple of frames, and shoot some more. This will be an important factor in the next step.

Now it's time to get down to business. Grab the camera and head for the computer. Load the images, and discard any that are obviously poor. ACDSEE is an excellent program to start with. It allows multiple image views on the same screen. Once you have narrowed the selection to the last 2 or 3, enlarge the images to see which one degrades the least. That's the one to keep. The next step is to manipulate your selection and create the final image. Figure 2 shows the difference between the first shot, and the final image. Note that the orientation has been corrected to show north up.

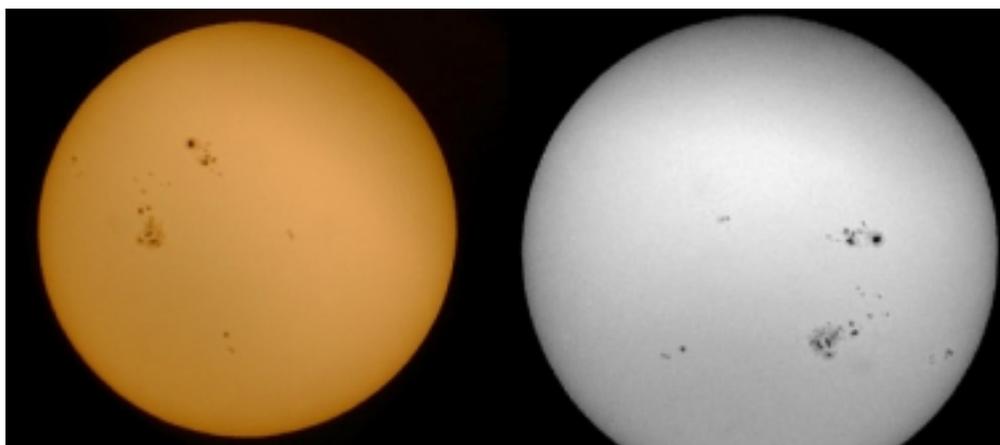
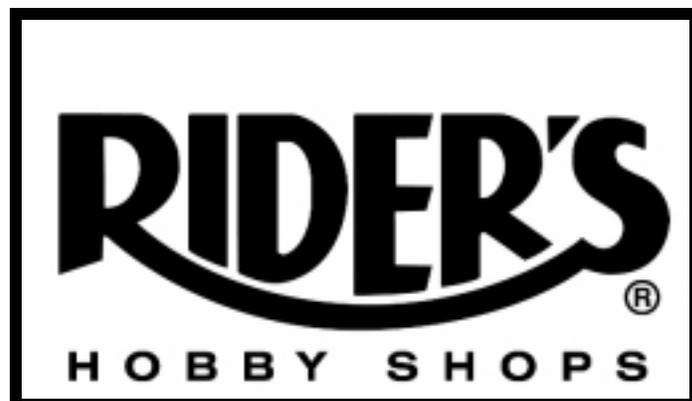


Figure 2

There are many photo editing programs available for the final step. I prefer to use Adobe Photoshop 5.0, simply because I am most comfortable with it. Many cameras include software capable of creating the final product. First, remove any color from the image. A gray-scale image will show higher contrast. Next, adjust the brightness and contrast until the image shows as much detail as you can push out of it. It's a good idea to name the image with the date and time it was shot.

And there you have it. Anyone can create detailed Solar images with a total expense of under \$2000.00, including the computer! Don't become frustrated if your images aren't perfect. Even the best photographers started with some pretty poor images. Keep practicing. In a very short amount of time, anyone can become a successful Solar photographer.



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Upcoming Events in 2004						
Month	Day	Time	What	Where	Presenter	Subject
November	Mon 1	7:30 pm	<u>Cranbrook Meeting</u>	<u>Cranbrook Institute</u>	Jack Szymanski	First Point of Aries
	Thurs 18	7:30 pm	<u>Macomb Meeting</u>	<u>Macomb Community College South Campus</u>	Dave D'Onofrio	Processing CCD images
December	Mon 6	7:30 pm	<u>Cranbrook Meeting</u>	<u>Cranbrook Institute</u>	Richard Szumanski	Meteors / Comets / Deep Sky
	Thurs 16	7:30 pm	Holiday Awards Banquet		Fred Espenak - NASA	Eclipses

## November 2004 Calendar

**Friday, Nov 5** • 12:53 am: Last-quarter Moon;  
Dawn: Jupiter and Venus are closest (33')

**Monday, Nov 8** • The Taurid meteors are active for several weeks around this date.

**Friday, Nov 12** • 9:27 am: New Moon

**Wednesday, Nov 17** • This am is the peak of the Leonid meteor shower; Venus reaches least angular separation,  $3^{\circ} 51'$ , from Spica

**Friday, Nov 19** • 12:50 am: First-quarter Moon

**Saturday, Nov 20** • Evening: Mercury stands at greatest elongation,  $22^{\circ}$  east of the Sun.

**Sunday, Nov 21** • 3:07 pm: Full Moon

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### Extend Your Observing Time

by Bob Berta

At a recent club meeting, Jim talked about seeing Venus and also a star or two in early morning daylight. So I thought I would give it a try too.

I just had a good observing run...saw the Moon, Rigel, Betelgeuse, Sirius, Procyon, Pollux, Castor, Aldebaran, Polaris, and Saturn and its rings. While you might be thinking...big deal...those are just "everyday" objects. What if I told you I observed these at 10:00....AM in broad daylight!

The computerized telescopes like Meades and my Celestron 11" GPS have the ability to go into "HIBERNATE" mode. Last night I did a normal observing run but instead of turning off everything and putting the scope away....I put my scope in Hibernate mode. On the Celestron (and Meades) when you do this the telescope shuts down but remembers all of its alignment. So the next morning you just turn the scope back on and it is back in action without any star alignment. To find any



### A Summer Vacation Tracking Down UFOs By Diane K Fisher

Erin Schumacher's summer job for NASA was to look for UFOs. Erin is a 16-year-old high school student from Redondo Beach, California, attending the California Academy of Mathematics and

object you just enter the object you want and the scope goes right to it.

The stars were quite easy to see and I even saw the doubles on some of them that have doubles. Saturn's rings were very obvious although of course the white background sky lessened contrast. Even so I was surprised at how well the rings stood out.

While my 11" telescope showed these stars and Saturn clearly...you may be thinking that a smaller scope won't show them. You can see them with a small scope too...in fact many of the stars were also evident in my 8x50 finder scope!

For those without a GOTO scope use of digital setting circles...or a set of accurate RA/DEC engraved rings on your scope mount will work also. Caution!! Since you are observing during the daylight hours you have to be VERY careful that your telescope doesn't aim into the sun. For this reason (and because my house was in the way) I avoided the planets near the sun this time of year. About the only other caution I would offer is that you need to pay attention to the dangers of leaving your scope out over night. While I live in a very safe area and have no problem leaving my gear out over night...you may want to be a bit more cautious. And of course there is always the threat of night time rain. I got a large BBQ cover from my local hardware store that will completely cover my scope and mount and is waterproof.

While these objects wouldn't normally excite me, I thought this was a particularly memorable observing session as this opens up a whole new area of observing challenges.

Bob Berta

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Science in Carson. She was one of ten students selected to work at NASA's Jet Propulsion Laboratory (JPL) in Pasadena as part of the Summer High School Apprenticeship Research Program, or SHARP.

But is studying UFOs a useful kind of NASA research? Well, it is when they are "unidentified flashing objects" that appear in certain images of Earth from space. Erin worked with scientists on the Multi-angle Imaging SpectroRadiometer (MISR) project to track down these mysterious features. MISR is one of five instruments onboard the Earth-orbiting Terra satellite. MISR's nine

separate cameras all point downward at different angles, each camera in turn taking a picture of the same piece of Earth as the satellite passes overhead. Viewing the same scene through the atmosphere at different angles gives far more information about the aerosols, pollution, and water vapor in the air than a single view would give. Ground features may also look slightly or dramatically different from one viewing angle to another.

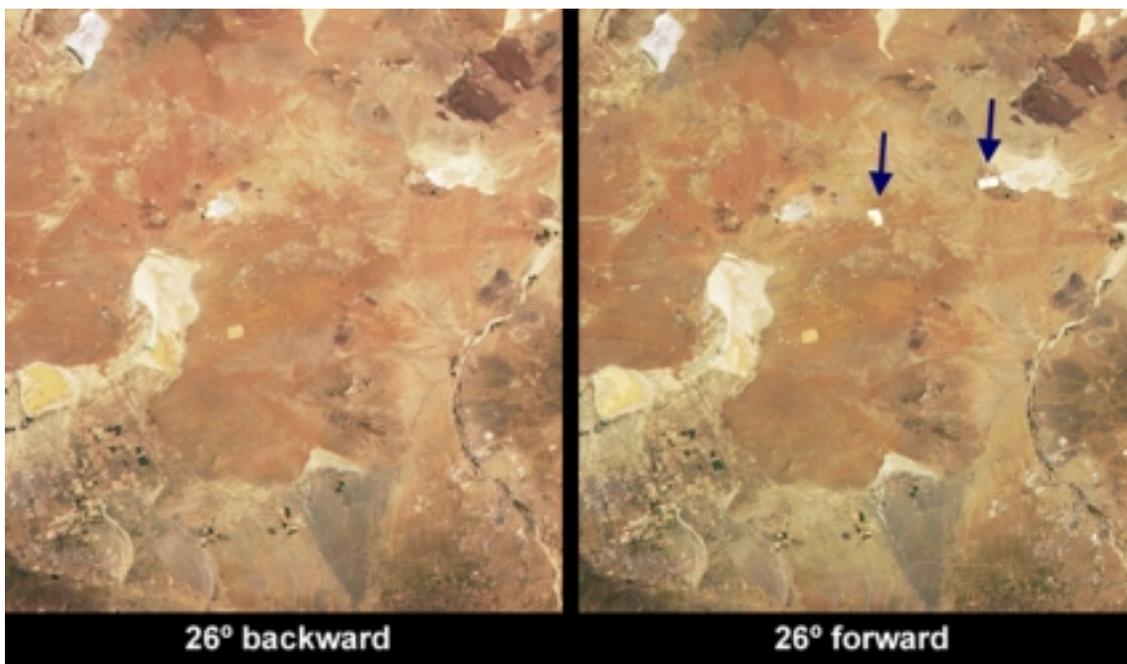
Erin's job was to carefully examine the pictures looking for any flashes of light that might be visible from just one of the nine angles. Such flashes are caused by sunlight bouncing off very reflective surfaces and can be seen if a camera is pointed at just the right angle to catch them. Because the satellite data contain precise locations for each pixel in the images, Erin could figure out exactly where a flashing object on the ground should be. Her job was then to figure out exactly what it was that made the flash-in particular, to see if she could distinguish man-made objects from natural ones.

When Erin began working at JPL, scientists on the MISR project had already identified two large flashes out in the middle of the Mojave Desert in

Southern California. These turned out to be from solar power generating stations. Soon, Erin began finding flashes all over the place. She learned how to apply her math knowledge to figuring out how the objects would have to be oriented in order to be seen by a particular MISR camera. One time, she and a team of MISR scientists and students went on a field trip to the exact locations of some flashes, where they found greenhouses, large warehouses with corrugated metal roofs, a glass-enclosed shopping mall, and a solar-paneled barn. For some flashes, they could find nothing at all. Those remain "UFOs" to this day!

Learn more about SHARP at [www.nasasharp.com](http://www.nasasharp.com) and Earth science applications of MISR at [www-misr.jpl.nasa.gov](http://www-misr.jpl.nasa.gov). Kids can do an online MISR crossword at [spaceplace.nasa.gov/en/kids/misr\\_xword/misr\\_xword1.shtml](http://spaceplace.nasa.gov/en/kids/misr_xword/misr_xword1.shtml).

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



Two cameras on MISR made these images of the same part of the Mojave Desert. The camera pointed at an angle of 26 forward saw the flashes from two solar electric power generating stations. These objects are nearly invisible at the other angle.