



The Warren Astronomical Society Paper

P.O. Box 1505
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www.boonhill.net/was

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2004 WAS OFFICERS

\\ June 2004

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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 WAS or the editor. The WASP reserves the right to deny publication of any submission.

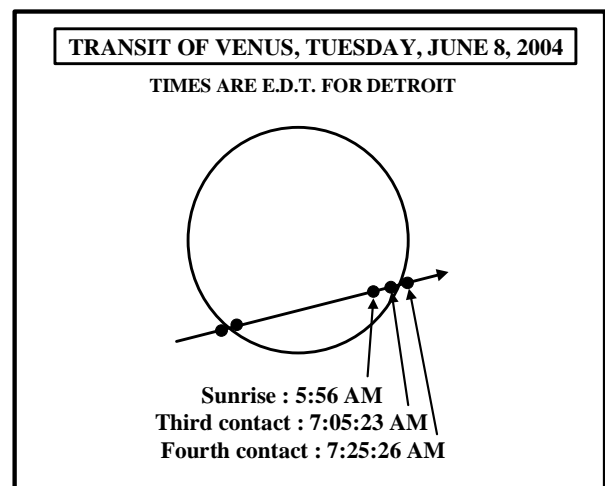


Astro Chatter

by Larry Kalinowski

If you can't be in Africa, Europe or Asia on June 8, to view the transit of Venus across the face of the Sun, you may be lucky enough to catch the last ten percent of the transit right here in Michigan. The problem will be to get a good view of the eastern horizon just as the Sun rises that Tuesday morning. Venus, being nearly the size of the Earth, will take up about 1/32 of the Sun's diameter and should be easily seen with proper filtering. It's even large enough to be seen without optical aid. If you're lucky enough to see the Sun right on the horizon, chances are Venus will be visible even without a filter, as the Earth's atmosphere will do the job for you at such a low altitude. Fourth contact, the time when the planet just leaves the Sun's surface entirely, will occur when the Sun is about fifteen degrees above the horizon. So there will be about an hour and a half to view the event and photograph it, if you get a clear view of the horizon. Here in the Detroit area, the

planet will appear at about the four o'clock position, if you use the face of the Sun as a clock. Third contact, the time when the planet starts slipping off the Sun's face will be at about 7:05am. Fourth contact occurs at 7:25. This event should be well photographed around the world.



Astronomy day was a near bust at the club observatory. About six or seven members showed

up, along with four visitors, invited by Bob Watt, and a few boy scouts, hoping that the skies would clear but it was hopeless. Thanks to Riyad Matti, and his thoughtfulness, we all enjoyed a couple of rounds of hot dogs at the picnic table, along with beverages. With time to play with equipment, I was able to fire up the new observatory computer. A problem with the video section would only display 800 X 640 pixels. Vince Chrisman determined that the monitor was just too old for a higher display, so he and I will be looking for another monitor for the club. If you have one to bargain or donate, in the fifteen to seventeen inch size, let the club know about it. The party broke up about 11:00pm.

Astronomy Day afternoon was just the opposite for Cranbrook. According to Marty Kunz, It couldn't have been better. The sky was clear for daylight observing of the Sun and Venus. Of course, the open house really helped bring in the people. The science museum, art museum and planetarium were open to the public, while members of the WAS talked astronomy and telescopes to the thousands that attended.

Compared to last year's Kensington "Astronomy At the Beach", this year's eighth annual event was also nearly a bust. Friday afternoon produced some glimpses of sunshine after torrential rains engulfed the Detroit area but all hopes of any observing during twilight and evening were dashed, by around 10:30pm, when more storms threatened the Kent Lake area. The scheduled talks suffered the loss of the keynote speaker, after astronaut Dr. Tony England called and cancelled his talk because of flooding in the Ann Arbor area, where he resides. Headcount was about a hundred or more on Friday.

Special thanks go out to all the volunteer speakers like John Kirchoff, John Schroer, the Metropark Nature Center, Tom Casper, Kevin Dehne, Greg Burnett, Dave D'Onofrio, the Kensington MetroPark crew, Ken Bertin and Saturday's second keynote speaker Dr. Patricia Anne Santy.

Some of you received a copy of a Jet Propulsion Lab (JPL) photo via Internet that I sent, just before last month's Cranbrook meeting. It was a picture taken by Opportunity, the second Mars lander of recent date. Although JPL neither confirms or denies it, one person has taken upon himself to announce that there are a multitude of fossils in the picture. He took the time to stack a series of JPL pictures and enhanced them to the point where there was much more contrast. Then he outlined the portions of the fossils in red lines to make them

easier for you and me to recognize. What's amazing is the fossils resemble some of the fossils that have been found here on Earth. You can see the outlines of Urchins, squid, trilobites, starfish, leaves and other stuff that I wouldn't recognize as fossils if I had to make a judgement on my own. The important point is.....how valid is this guys results. What conclusion did you come to after you saw the picture?

European astronomers have confirmed a new class of objects, known as "very hot Jupiters", which are large, extremely hot, and orbit their parent star in an orbit that only takes a couple of days. They used the "transit method", which measure the brightness of a star over a long period of time to watch for a periodic dimming; an indication that a planet is passing in front. As part of a new survey of 155,000 stars, the astronomers have found 137 transit candidates, and confirmed 2 planets so far using other techniques for finding extrasolar planets.

NASA is currently making a difficult decision about whether to send its Opportunity rover down into Endurance Crater, which is 130 metres wide, and deep enough that the rover might not be able to climb back out. It's clear that there's some interesting science to be gathered in the crater, including more exposed rock surfaces. Opportunity will crawl around the rim of the crater and search for an ideal ramp that it could use to enter and exit safely.

Speakers for the month of June are Jim Shedlowski, Ken Bertin and Larry Kalinowski. Jim, our last voted "most up and coming amateur" in our club, will be talking about Iridium flares. Those are the satellites that burst into brilliance just when the angle between the observer, Sun and satellite solar panels are just right. They are a link for global telephone conversations. There's more than 77 satellites in polar orbit, some are back-ups, waiting to burst to -7th magnitude. Jim will tell you how to find out when and where at this meeting. That's at the Cranbrook meeting on June 7. Ken Bertin will be back from his trip to view the passage of Venus across the face of the Sun, all recorded with his trusty video camera. He'll show his results at the Macomb meeting on June 17. Since his presentation will be short, (so he thinks), I'll also make a presentation called "Name That Nebula" during the same meeting. There will be some pretty pictures, along with comments from myself and the audience about how to observe them and what type of telescopes and accessories should be used searching for them.

According to Steve Greene and Bill Beers, the modifications on the 22 inch telescope are finished and will be ready for the Kensington and Cadillac West Star Parties. The poles are still numbered and must be inserted into the proper strut blocks, which are also numbered. However, final assembly of the upper cage should be much easier, with little forcing of the struts to settle into position. The upper cage tightening screws have also been shortened to reduce the number of turns required.

The June computer group meeting is scheduled for June 24, (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) 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 Mike Best, starmikebest@aol.com. (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@aol.com (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@aol.com. (8-04).

Welcome Rider's of Livonia! Following is the first ever advertisement to be published in the WASP featuring quality astronomical products sold by Ryder's of Livonia. Ryder's of Livonia has been a long time supporter of the amateur and professional astronomy associations in Michigan and is a presence at major star parties.

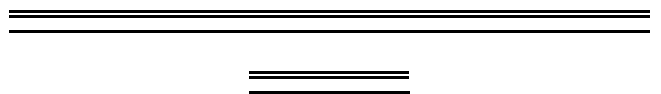


Now stocking Vixen telescopes and accessories.

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

Now taking orders for the new Meade LX D75 telescopes.

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



SCHEDULED SPEAKERS

DATE	DAY	PRESENTER	SUBJECT
6/7/2004	MON	Jim Shedlowsky	Iridium Flares
6/17/2004	THU	Ken Bertin Larry K.	Transit of Venus Name that Nebula
7/5/2004	MON	Alan Rothenberg Jim Ehlers	Albion Observatory Restoration
7/15/2004	THU	Alan Kaplan	Globular Clusters
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

May Calendar

Thursday, June 3 • 12:20 am: Full Moon, at perigee (221,983 miles from earth.)

Monday, June 7 • 2:00 am: The Moon passes 5° south of Neptune.

Tuesday, June 8 • 5:00 am: Venus transits the Sun (inferior conjunction) • 3:00 pm: The Moon passes 4° south of Uranus

Wednesday, June 9 • 4:02 pm: Last Quarter Moon
Friday, June 11 • 4:02 pm: Pluto is at opposition
Monday, June 14 • 2:00 pm: Moon passes 6° south of Pollux

Thursday, June 17 • 12:01 pm: The Moon is at apogee (252,634 miles from Earth) • 4:27 pm: New Moon

Friday, June 18 • 5:00 pm: Mercury is in superior conjunction

Saturday, June 19 • 3:00 am: The Moon passes 5° north of Saturn

Sunday, June 20 • 5:00 am: The Moon passes 4° north of Mars • 8:57 pm: Summer solstice

Wednesday, June 23 • 7:00 pm: The moon passes 3° north of Jupiter

Thursday, June 24 • 10:00 pm: Venus passes 2° north of Aldebaran

Friday, June 25 • 3:08 pm: First Quarter Moon

Tuesday, June 29 • 10:00 am: Venus is stationary

Thursday, June 30 • 4:00 pm: Asteroid Pallas is in conjunction with the Sun

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### UPCOMING WAS EVENTS

|     |          |         |                                   |
|-----|----------|---------|-----------------------------------|
| Jun | Mon 7    | 7:30 pm | <a href="#">Cranbrook Meeting</a> |
|     | Thurs 17 | 7:30 pm | <a href="#">Macomb Meeting</a>    |
| Jul | Mon 5    | 7:30 pm | <a href="#">Cranbrook Meeting</a> |
|     | Thurs 15 | 7:30 pm | <a href="#">Macomb Meeting</a>    |
| Aug | Mon 2    | 7:30 pm | <a href="#">Cranbrook Meeting</a> |
|     | Thurs 19 | 7:30 pm | <a href="#">Macomb Meeting</a>    |
| Sep | Mon 6    | 7:30 pm | <a href="#">Cranbrook Meeting</a> |
|     | Thurs 16 | 7:30 pm | <a href="#">Macomb Meeting</a>    |
| Oct | Mon 4    | 7:30 pm | <a href="#">Cranbrook Meeting</a> |
|     | Thurs 21 | 7:30 pm | <a href="#">Macomb Meeting</a>    |
| Nov | Mon 1    | 7:30 pm | <a href="#">Cranbrook Meeting</a> |
|     | Thurs 18 | 7:30 pm | <a href="#">Macomb Meeting</a>    |
| Dec | Mon 6    | 7:30 pm | <a href="#">Cranbrook Meeting</a> |
|     | Thurs 16 | 7:30 pm | Holiday Awards<br>Banquet         |

## Curved Collectors

By Vince Chrisman

At a recent meeting our librarian, Steve Uitti mentioned that one of the society's scopes needed the optics cleaned. I took a look and couldn't agree more. I have a mother that is compulsive about cleaning. That trait has rubbed off on me. Thinking back few the years, I have ruined a few things by trying to over clean or polish up something without really knowing how or what to do. Being a little more mature and having a new 10" SCT with Ultra High Transmission Coatings, I decided to research on what I should do to keep my optics as clean as possible and maintain the highest possible light transmission. Much to my amazement, my research said, "**DON'T.**"

Surprisingly, small amounts of dust, film and debris do not significantly reduce the light transmission level. Cleaning coated optical surfaces is the most damaging action short of physical damage or breakage. You should only clean the optics when absolutely necessary. Lightly dusting is your best overall solution. So if you feel your optics need to be dusted and possibly cleaned what is the best way?

Dr. Clay from the Arkansas Sky Observatory, [www.arksky.org](http://www.arksky.org) publishes a free white paper, "*The ASO fine Optics CLEANING SYSTEM: Part I PRECISION COATED OPTICAL Lenses, Corrector Plates and other REFRACTIVE GLASS.*" This paper describes when and most importantly on how to clean your optics. Instructions are provided on how to prepare the ASO SuperPlus Optical Cleaning Solution. This cleaning solution is in two parts. One solution is for cleaning and the other is for rinsing. All of the components are available locally and the cost is low. Given the fact you should limit your cleaning, you'll have enough solution for a couple of lifetimes. Dr. Clay provides very detailed steps on how to make the solution and how to use it. It's best to refer you to the white paper for those instructions. I'll only extract the more common dusting process.

So let's run right out and purchase some "Dust Off" or other compressed air and begin right away – **WRONG!** My experiences along with Dr. Clay is that it's virtually useless at removing embedded particles on a glass surface and can expel harmful liquid droplets on the glass. I have ruined some coated binoculars using this method. So what is the suggested right way?

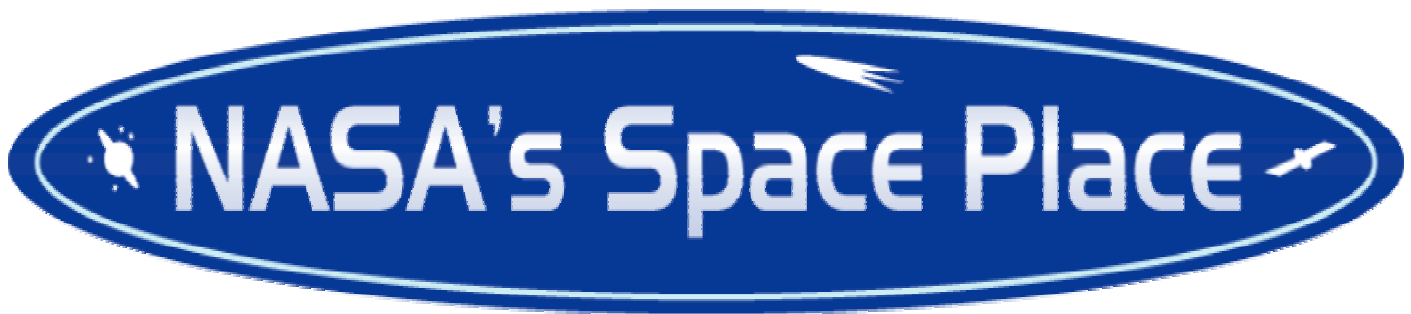
According to Dr. Clay, to dust, use a SQUARE-CUT (not a tip-cut) very soft brush that is about 2" (50mm) wide with tapered bristles. He has found several excellent such brushes at Lowe's and Home Depot and other stores where quality-painting supplies are sold. Look for the very soft and flexible "touch up" and/or "delicate trim" brushes. Most of these are short-handled and have the bristles as an angled radius cut. Make sure that the bristles are incredibly soft; he uses the "cheek method" for testing softness: take the brush out of its package and push the tiny ends of the bristles hard against the cheek of your face. If they do not "prick" then they are fine for optical use. Another tip on selecting a brush is the number of bristles. The MORE bristles on brushes just described, usually the softer and better the quality.

Dr. Clay starts by dusting the METAL SURFACES that surround the optics, ridding them of all debris first; just whisk away. Then start at the top of your glass and gently swipe the surface IN ONE DIRECTION. Do NOT move back-and-forth with the brush. Stroke in only one direction. Do NOT rub. Merely "pull" the brush across the surface and apply no pressure; let the brush do the work for you. Any particles that do not come off with such brush will be removed in subsequent cleaning with liquid if necessary.

The object of your dusting is to essential "move" all the particles to the bottom of the surface you are working on. Once there you can brush them off the area and actually assist their removal by blowing gently against the areas being brushed.

So if you feel compelled to clean the optics, start with dusting first. If you still are not satisfied, then print off Dr. Clay's white paper and achieve near perfect results every time.





Article Compliments of Nancy Leon of JPL/NASA

## Far-out Ideas by Patrick L. Barry

Ever had a great idea for a new spacecraft propulsion system, or for a new kind of Mars rover? Have you ever wondered how such "dinner napkin sketches" evolve into real hardware flying real missions out in the cold blackness of space?

The road to reality for each idea is a unique story, but NASA has defined some common steps and stages that all fledgling space technologies must go through as they're nursed from infancy to ignition and liftoff.

Suppose, for example, that you've thought of a new way to shield astronauts from harmful radiation during long space missions. In the first stage, you would simply "flesh out" the idea: Write it down, check the physics, and do some quick experiments to test your assumptions.

If the idea still looks good, the next step is to build a "proof of concept." This is the "science fair project" stage, where you put together a nifty demonstration on a low budget—just to show that the idea can work.

For your radiation-shielding idea, for example, you might show how a Geiger counter inside a miniature mock-up doesn't start clicking when some radioactive cobalt-60 is held nearby. The shielding really works!

Once that hurdle is cleared, development shifts into a higher gear. In this stage, explains Dr. Christopher Stevens of JPL, the challenge isn't just making it work, but making it work in space.

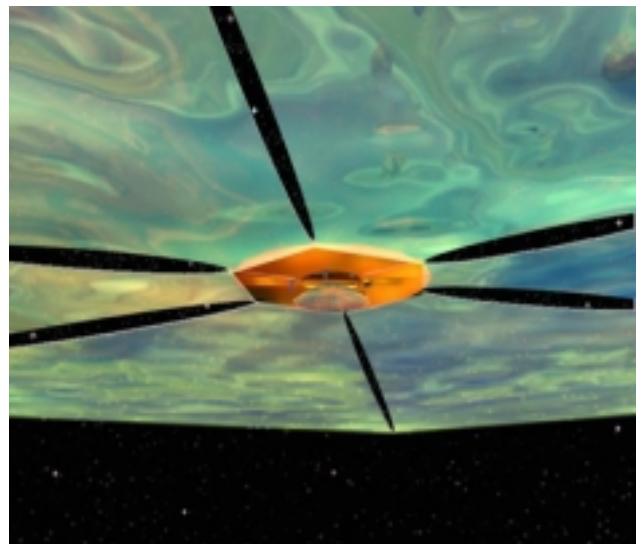
"Some conditions of space flight cannot be adequately simulated here on Earth," Stevens says. Cobalt-60 doesn't truly mimic the diverse mixture of radiation in space, for example, and the true microgravity of orbit is needed to test some technologies, such as the delicate unfolding of a vast, gossamer solar sail. Other technologies, such as artificial intelligence control systems, must be flight tested just because they're so radically new that mission

commanders won't trust them based solely on lab tests.

Stevens is the manager of NASA's New Millennium Program (NMP), which does this sort of testing: Sending things to space and seeing if they work. In recent years the NMP has tested ion engines and autonomous navigation on the Deep Space 1 spacecraft, a new "hyperspectral" imager on the Earth Observing 1 satellite, and dozens of other "high risk" technologies.

Thanks to the NMP, lots of dinner napkin sketches have become real, and they're heading for space. You can learn more at the NMP website, [nmp.nasa.gov/](http://nmp.nasa.gov/).

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



*This is just one idea of how a solar sail could be used to power an interstellar probe. A solar sail is one possible type of new technology that NASA's New Millennium Program would test in space before it would be risked on a scientific mission.*

# WARREN ASTRONOMICAL SOCIETY



## MEMBERSHIP/RENEWAL APPLICATION

New Member

Renewal

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Home Phone:(\_\_\_\_) \_\_\_\_\_ Cell Phone:(\_\_\_\_) \_\_\_\_\_ Work Phone:(\_\_\_\_) \_\_\_\_\_

E-mail address: \_\_\_\_\_

I would like to take advantage of the online color version in .PDF format of the **Warren Astronomical Society Paper (WASP)**, so don't send me a paper copy. (You will be notified by e-mail when your color newsletter is ready for download.)

May we send you monthly updates and occasional information on WAS activities by e-mail? YES NO

### MEMBERSHIP DUES:

**Regular Membership:** \$30

**Additional Family Membership:** (Immediate family of regular member, residing at same address)  
 Names: \_\_\_\_\_ (\$7 for all) \$7

**Sr. Citizen:** (One person 65 years of age or older) \$22

**College Student:** (One person attending College or University) \$22

**Student Membership:** (Individual students, through High School) \$17

**Magazine Subscription and Renewals:** (At special WAS annual discount rates)

*Astronomy* (1 year, 12 issues at \$29.00) New Renewal \$29.00

*Sky & Telescope* (1 year, 12 issues at \$32.95) New Renewal \$32.95

**TOTAL AMOUNT:** (Please provide a single check payable to **Warren Astronomical Society**) Thank you! \$

### OPTIONAL INFORMATION:

Where did you hear of our Society? \_\_\_\_\_

#### Experience level:

Beginner Intermediate Advance Professional

#### Telescope(s):

New/Dobsonian New/Equatorial Refractor SCT Radio  
 Binoculars Other: \_\_\_\_\_

Make/Model: \_\_\_\_\_

Aperture: \_\_\_\_\_ Inches Millimeters f/Ratio: \_\_\_\_\_

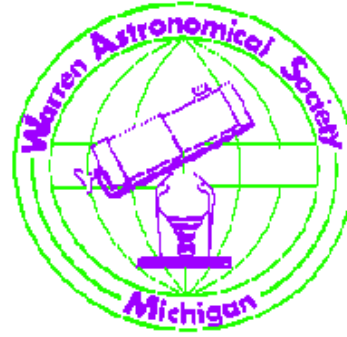
#### Area(s) of interest:

|                                       |                  |                                     |
|---------------------------------------|------------------|-------------------------------------|
| Beginner                              | Deep Sky         | Variable Stars                      |
| Lunar and Planetary                   | Meteor Observing | Comets and Comet Hunting            |
| Solar                                 | Computer         | Radio Astronomy                     |
| Astrophotography (Film, Video or CCD) | Field Trips      | Public and Youth Astronomy Outreach |

Send completed application with your check to:

Warren Astronomical Society Membership, P.O. Box 1505, Warren Michigan 48090-1505

WARREN ASTRONOMICAL SOCIETY  
P.O. BOX 1505  
WARREN MICHIGAN 48090- 1505



TO:

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**The society holds meetings on the first Monday and the third Thursday of each month, starting at 7:30 pm.**

First Monday meeting:

Cranbrook Institute of Science  
1221 North Woodward Avenue  
Bloomfield Hills, Michigan

Third Thursday meeting:

Macomb Community College  
South Campus, Bldg B, Room 209  
14500 Twelve Mile Rd  
Warren, Michigan