The W.A.S.P. newsletter

November 2005

The Warren Astronomical Society Paper

P.O. Box 1505
Warren, Michigan 48090-1505
www.warrenastronomicalsociety.org

Volume 37, Number 11 // November, 2005

2005 WAS OFFICERS

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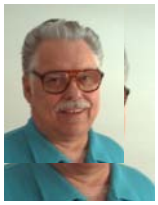
The WASP (Warren Astronomical Society Paper) is the official monthly publication of the Society. Each new issue of the WASP is mailed to each member and/or available online www.warrenastronomicalsociety.org. Requests by other Astronomy clubs to receive the WASP, and all other correspondence should be 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



It's now official. The new officers for 2006 are Norman Dillard for President, Riyad Matti for First Vice Pres., Bob Berta for Second Vice Pres., Dale Partin for Secretary, Dr. Phil Martin for Treasurer, Steve Uitti for Director of Publications and Marty Kunz for Director of Public Relations. I have to give our 2005 officers a great big hand for the job they've done over the past year. Especially Ken Bertin, our president. He's done much to hasten business meetings and present a greater number of speakers for our enjoyment. When called upon to speak at public gatherings, he never says no. He's probably the most visible president the club has ever had. Well done Ken, I hate to see you go, as well as the others leaving office.

One of our long time members, Kimble D. Dyer, passed away in September. Active until about four years ago, he was always concerned with helping beginners get a start in amateur astronomy. He and some members of the Detroit Astronomical Society helped the Warren society get a good start in the telescope building hobby back in the early 1960's, just after the club was formed and started meeting at Lincoln High School in Warren, MI. Kim had a hand in many of the niceties that we enjoy at our own Stargate Observatory. After getting tired of waiting for the club to make our observatory sight a little darker, he took it upon himself to install an on-off switch on the southern light pole that bothered so many of us while we were observing. He took charge of more than one solar eclipse expedition group in the seventies, and one in the nineties. Even with failing eyesight, he showed new members the way to enjoy and measure the changing brightness of variable stars and how to track asteroids and comets. At the society meetings

he could be seen carrying all kinds of astronomical information in his portable, plastic bag, library. That bag became his trademark. During one meeting, the society approved and purchased a brand new attaché case for Kim so that he would look more professional at our meetings. At the next meeting, all members eagerly awaited his arrival and the professional looking case. He laid it on the table in front of him, opened the case, and proceeded to remove the plastic bag that he so dearly had gotten used to. An expert on our planetary system, he could name nearly all of the moons that circled the nine planets, as well as the new planetary discoveries. Kim was a victim of a hit and run vehicle accident, late at night, as he was returning from a visit to the Michigan State University Observatory. Like a star that must eventually dim its light, Kim's light dimmed on September 25, 2005. He's no longer visible, but like a dark star, his presence and his influence can also be measured by observing how he continues to effect the other stars that surrounded him. He was 79 years of age and he died doing what he loved. Studying the stars.

Speakers for the month of November include Ken Bertin and David D'Onofrio. Ken will be talking about the The History Of Astronomy, which will, no doubt, look back at the giants of astronomy and their contributions to the science in the past. Ken's talk will be at the Cranbrook Science Museum on Monday, November 7. Dave's talk is a repeat performance of the 3-D presentation he did a couple of years ago. It's a fabulous computer show on our large screen and promises to pack the house at the MCCC, Bldg. B, room 209.Thursday, November 17. Both meetings begin a 7:30PM.

Now's the time to start thinking about attending our 2005 WAS Awards Banquet. It's held on the third Thursday of December. This year that's December 15, at DeCarlos, on Ten Mile Road, just east of Mound Rd. in Warren, MI. The main speaker for the evening is Robert Naeye, Senior Editor of Sky And Telescope magazine. The board of directors has made one stipulation for attending. Male dress must be business casual, at least. There were a lot of complaints about the general dress in past years. Some, from the guests that attended. That means no Levi's or everyday wear. Sport Jackets and slacks will be a minimum, even if you don't have a tie to wear. Female members and guests should dress to compliment their partners. The price is $23 per person and guests are invited to attend. Your payment must be in by the first meeting in December at the Cranbrook Science Museum meeting, otherwise a meal may not be available if you wait until the last minute. Spirits will be available to help make those boring announcements tolerable.

Just as in the past, there will be prizes contributed to our Banquet raffle by well know vendors of astronomical equipment. You can expect eyepieces, Barlows, software and other observing items for the low cost of one dollar a ticket. If you have any items that you would like to contribute to the raffle during the banquet, please bring them with you to the door that evening. We are looking for books, games, software, gadgets, old lenses, mechanical or electronic devices, just about anything related to astronomy.

The next open house, at Stargate Observatory, is scheduled for November 5.

Because of Thanksgiving Day falling on the meeting date for the computer group, the meeting will be moved two days earlier to November 22 (the fourth Tuesday of the month) at Gary Gathen's home in Pleasant Ridge. He lives at 21 Elm Park Blvd., three blocks south of I-696 and about a half block west of Woodward Ave. Meeting will start at 8:00 PM. You can reach him at 248-543-3366, or me, at 586-776-9720 for any further information.

All space photos are courtesy of SPACE.COM unless otherwise noted.

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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.

CORRECTION. Frank Boyle's ad that appeared in the June edition of the WASP, had some errors. If you tried to connect with him and

failed, please try the new info in this month's ad.

FOR SALE. Meade 10-inch LXD55 SN-10 with UHTC, Schmidt-Newtonian with Autostar. Includes the following: Meade 26mm Super Plossl eyepiece, Scoptronics 40mm Plossl eyepiece, Scoptronics 15mm Plossl, 2X Barlow lens, 12mm standard eyepiece, Orion Stargazers 4 filter set, Orion accessory case, Orion red dot EZ finder II, Meade AC adaptor and battery pack, Meade camera adaptor and 2 inch eyepiece adaptor, new declination motor drive replaced 5-25-05. Telescope is in good condition with excellent optics. $850, pick up only. Jdbuhl@aol.com. (4-06).

FOR SALE. Celestron G-5 with motor drive, Bushnell 80mm refractor with "you-go-to" feature, Swift 114mm Newtonian, many binoculars, all at cost or below! Contact Bob Johnson at 248-541-0914. (4-06).

FOR SALE. Pool cover for in-ground pool. 20X35 ft. for 15X30 pool or smaller. Never Used. $30. 586-776-9720. Cometman@mybluelight.com. (4-06).

PRICE LOWERED!! FOR SALE. Meade Quasar, model DS-114-EC, with Autostar computer controller, tripod and three eyepieces, now $200. Call Frank Boyle at 313-886-8851 or fboylelady@aol.com. (12-05).

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Note from our President
Ken Bertin

My trip to Spain was terrific. Although it was very short in duration, we were always on the go, so it seemed longer. We visited the Prado in Madrid, where we saw paintings of the greats, like El Greco and Goya. We toured the palace at Madrid along with a myriad of churches. We visited the walled city of Avila and the city of Sagovia with its Roman built 2000 year old Aquaducts.

The day before the annular eclipse we visited Toledo and the ancient Jewish Quarter. Ferdinand and Isabella (of Christopher Columbus fame) decided to expel from Spain all non-Catholics in 1492. One had a choice, either convert to Catholism, leave the country or die. We got to see the old synagogue and how Spain converted it to, what else, a church.

The day of the Eclipse we stayed at a beautiful hotel several miles from Madrid. The eclipse was , in a word, spectacular. Certainly not on a par with a total solar eclipse but compelling just the same. The most remarkable thing about it was that during the 4 minute 32 second annularity, the temperature had dropped from about 65 to 41.

Some think that spending 22 hours on planes to see under seven minutes of totality or annularity isn't worthwhile, but the whole package of seeing another part of the world while being treated to a special event is certainly something not to pass up.

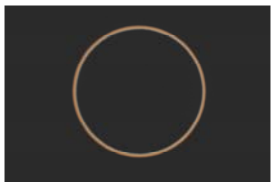
In March, I am traveling to Libya to see a four minute total eclipse and I can't wait. If you have never seen a total eclipse of the sun, you really need to consider putting at least one on your schedule. It can be costly however, so I would also make provisions to save up for such a trip. They come along every year to year and a half., so there is time to plan. The trip I am scheduled to take already has some 85 people signed up and is filled, that should tell you how popular the solar trip excursions have become.

There is a long annular eclipse on September 22, 2006(7 minutes 9 seconds), which I plan to see. Let me know if you are interested. We will probably going to South America to see this sunrise eclipse. The middle of the eclipse is in the south Atlantic and somewhat difficult to get to since Winter will have just ended in the southern hemisphere. Northern South America is tropical and the preferred spot.

I will have shown my eclipse pics and video at the October Macomb meeting, and will be the featured speaker on the history of Astronomy at the November Cranbrook Meeting. I am avidly looking forward to both events.

Respectfully submitted,

Ken Bertin



WAS Meetings scheduled for 2005

Cranbrook Meetings – Every 1st Monday

November 7 December 5

Macomb Meetings – Every 2nd Thursday

November 17 December 15 –Banquet

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November 2005 Calendar

Tuesday, Nov 1 • 8:25 pm: New Moon
Thursday, Nov 3 • 11:00 am: Mercury is at greatest elongation ; 2:00 pm: Venus is at greatest eastern elongation; 6:00 pm: The Moon passes 1.3° south of Mercury
Friday, Nov 4 • Mercury displays it's greatest illuminated extend, (22 square arcseconds) at gibbous phase; 2:00 am: the Moon passes 0.2° north of Antares; 7:00 am: Asteroid Fortuna is at opposition
Saturday, Nov 5 • 2:00 pm: The Moon passes 1.4° south of Venus; 3:00 am: Mars is at opposition
Tuesday, Nov 8 • 3:00 pm: The Moon passes 5° south of Neptune; 8:57: pm: First Quarter Moon
Wednesday, Nov 9 • 11:00 am: Mercury passes 1.9° north of Antares; 7:23 pm: The Moon is at perigee (229,914 miles from Earth)
Thursday, Nov 10 • 5:00 am: The Moon passes 3° south of Uranus
Friday, Nov 11 • Northern Taurid Meteor Shower visible around this date
Tuesday, Nov 15 • 1:00 am: The Moon passes 3° north of Mars; 7:57 pm: Full Moon
Thursday, Nov 17 • Leonid meteor shower peaks; 9:pp pm: Asteroid Pallas is in conjunction with the Sun.
Friday, Nov 18 • 11:00 am: Mercury passes 3° north of Antares
Monday, Nov 21 • 10:00 pm: The Moon passes 4° north of Saturn
Tuesday, Nov 22 • 1:00 pm: Saturn is stationary
Wednesday, Nov 23 • 1:17 am: The moon is at apogee (251,264 miles from Earth; 5:11 pm: Last Quarter Moon
Thursday, Nov 24 • 11:00 am: Mercury is in inferior conjunction
Sunday, Nov 27 • 11:00 pm: The Moon passes 1.1° north of Spica
Tuesday, Nov 29 • 3:00 am: The Moon passes 3° south of Jupiter

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Lunar Eclipse by Phil Martin

Book Review

Stephen Uitti

"The First Three Minutes" book review

"The First Three Minutes" was written by Steven Weinberg in 1976. Its the evolution of the Universe from one one-hundredth of a second to present. The main thermodynamic eras are described as frames of a movie. At 00 billion degrees Kelvin, electrons, positrons, photons, nuetrinoes and antineutrinoes bump into each other rapidly, changing form. From 0.01 seconds to 0.11 seconds, the Universe cools to 30 billion degrees Kelvin and protons and neutrons appear. And so on, through the seventh and current stage. At each frame, the general character of the Universe is fundamentally different. The book could have been called "The Thermodynamic History of The Universe".

For a book based on thermodynamics, the math is easy. The hardest math is segregated into an 11 page suppliment, which can be ignored.

I liked how he sets you up with just enough background to cover the science. I liked the chapter covering the historical perspective of the discoveries. Also, there is limited mention of God. He developes the interesting philosphical statement, "The effort to understand the universe is one of the very few things that lifts human life a little above the level of farce, and gives it some of the grace of tragedy."

A fear is that the cutting edge 1976 science would now be obsolete. It didn't happen. None of the broad outlines have changed. The First Three Minutes, available in the WAS library, still presents an excellent overview of how the Universe works. For an update, the WAS library also has Dr. Filippenko's excellent What's New In Astronomy, 2003 on twelve VHS tapes.

Board Meeting Minutes 10/2/05 Cranbrook

By Bob Berta

Meeting started at 6:51

Members in attendance:
Jim Schedlowsky
Norm Dillard
Bob Berta
Marty Kunz
Riyad Matti

Norm filled in for Ken as president.

Jim – No insurance on trailer…decided that liability is covered by whomever tows the trailer. Cost of insuring the trailer itself is so expensive that it would quickly be more than the cost of the trailer.

Suggested making any banner removable to make less tempting of a target when stored. Not necessary as is in a secure area at Dennis's house. But might be a good idea so banner could be used for other purposes.

Reminded all that we are tax exempt so make sure we don't pay tax on any purchases.

Suggested we need to have a committee or process to select people for recognition at the banquet. Banquet is Dec. 14th. Tickets are available at the meetings or obtain from Bob Watt.

Riyad reminded that a huge scout event is planned for Oct. 14th. Need people to assist.

UPDATED SPEAKER LIST FOR 2005

11/7/2005	**MONDAY**	**KEN BERTIN**	**HISTORY OF ASTRONOMY**
11/17/2005	**THURSDAY**	**ALAN KAPLAN**	**STELLAR EVOLUTION**
12/5/2005	**MONDAY**	**RICHARD SZUMANSKI**	**T.B.D.**
12/15/2005	**THURSDAY**		**AWARDS BANQUET**

A Wrinkle in Space-Time

By Trudy E. Bell

When a massive star reaches the end of its life, it can explode into a supernova rivaling the brilliance of an entire galaxy. What's left of the star fades in weeks, but its outer layers expand through space as a turbulent cloud of gases. Astronomers see beautiful remnants from past supernovas all around the sky, one of the most famous being the Crab Nebula in Taurus.

When a star throws off nine-tenths of its mass in a supernova, however, it also throws off nine-tenths of its gravitational field.

Astronomers see the light from supernovas. Can they also somehow sense the sudden and dramatic change in the exploding star's *gravitational field*?

Yes, they believe they can. According to Einstein's general theory of relativity, changes in the star's gravitational field should propagate outward, just like light—indeed, at the speed of light.

Those propagating changes would be a gravitational wave.

Einstein said what we feel as a gravitational field arises from the fact that huge masses curve space and time. The more massive an object, the more it bends the three dimensions of space and the fourth dimension of time. And if a massive object's gravitational field changes suddenly—say, when a star explodes—it should kink or wrinkle the very geometry of space-time. Moreover, that wrinkle should propagate outward like ripples radiating outward in a pond from a thrown stone.

The frequency and timing of gravitational waves should reveal what's happening deep inside a supernova, in contrast to light, which is radiated from the surface. Thus, gravitational waves allow astronomers to peer inside the universe's most violent events—like doctors peer at patients' internal organs using CAT scans. The technique is not limited to supernovas: colliding neutron stars, black holes and other exotic objects may be revealed, too.

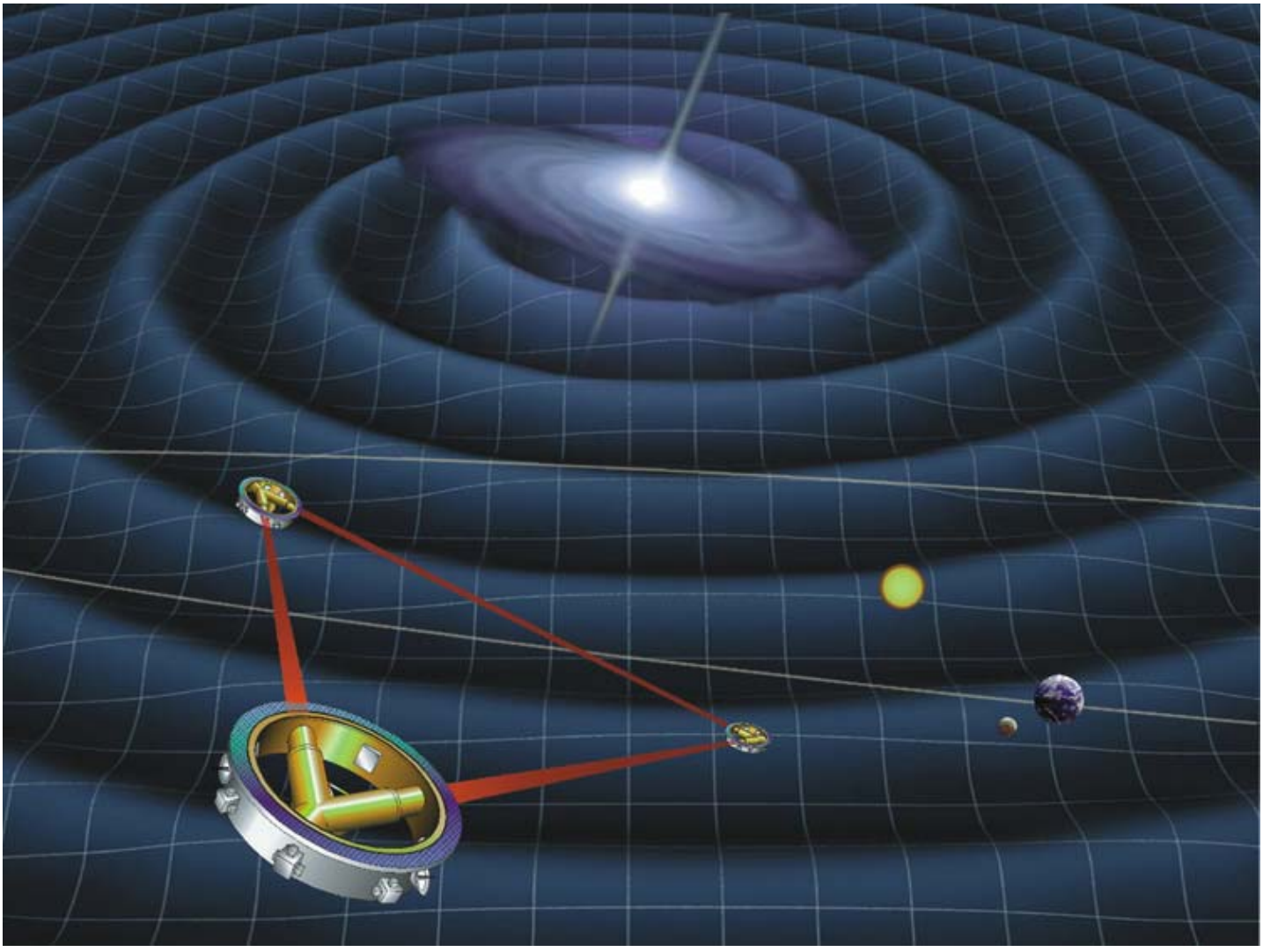
NASA and the European Space Agency are now building prototype equipment for the first space experiment to measure gravitational waves: the Laser Interferometer Space Antenna, or LISA.

LISA will look for patterns of compression and stretching in space-time that signal the passage of a gravitational wave. Three small spacecraft will fly in a triangular formation behind the Earth, each beaming a laser at the other two, continuously measuring their mutual separation. Although the three 'craft will be 5 million kilometers apart, they will monitor their separation to one *billionth* of a

centimeter, smaller than an atom's diameter, which is the kind of precision needed to sense these elusive waves.

LISA is slated for launch around 2015.

To learn more about LISA, go to http://lisa.jpl.nasa.gov. Kids can learn about LISA and do a gravitational wave interactive crossword at http://spaceplace.nasa.gov/en/kids/lisaxword/lisaxword.shtml.



LISA's three spacecraft will be positioned at the corners of a triangle 5 million kilometers on a side and will be able to detect gravitational wave induced changes in their separation distance of as little as one billionth of a centimeter.

You're invited
to celebrate…

WARREN ASTRONOMICAL SOCIETY
ANNUAL AWARD BANQUET

with

Robert Naeye

SENIOR EDITOR OF *SKY & TELESCOPE*

EXOPLANETS

WHEN: THURSDAY, DECEMBER 15, 2005

WHERE: DECARLO'S BANQUET CENTER
6015 E. 10 Mile Rd
Warren, MI 48091

SCHEDULE: COCKTAIL HOUR - 6:30 PM
Dinner - 8:00 PM
Open Bar - 6:30 – 9:30 PM

DRESS: BUSINESS CASUAL (JACKET FOR MEN SUGGESTED)

DRIVING DIRECTIONS: EAST OF MOUND RD.

TICKETS: $23.00/PERSON
Bob Watt
22525 Audrey
Warren, MI 48091
rdwatt@comcast.net
(586) 757-4741

WARREN ASTRONOMICAL SOCIETY
MEMBERSHIP/RENEWAL APPLICATION

☐ **New Member** ☐ **Renewal**

Name:_____ **Date:**_____
Address:_____
City:_____ **State:** _____ **Zip:** _____
Home Phone:(___) _____ **Cell Phone:**(___) _____ **Work Phone:**(___) _____

E-mail address:_____ (please print clearly)

MEMBERSHIP DUES:

Regular Membership: ☐ $30
Additional Family Membership: (Immediate family of regular member, residing at same address)
Names: _____($7 for all) ☐ $7

OR

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

AND

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
2/2005