The W.A.S.P. newsletter

March 2005

The Warren Astronomical Society Paper

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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

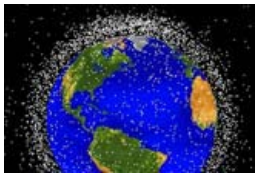
Mr. Richard Lipke came through for the club again by donating an ST-9 CCD camera, filter wheel and software to our group. The unbelievable news came from Vince Chrisman at the MCCC meeting last month. The members jaws dropped when they heard the news. Dick had just recently donated a full computer system last year, with a complement of software, and no one expected him to donate any other equipment. It's quite amazing, since the club was getting ready to make a decision on buying some kind of CCD camera for the twelve inch reflector in our observatory. We were going to be content with a DSI camera if we could afford it and look what happened, an angel appeared out of nowhere, in the form of Mr. Lipke, again. The ST-9 is a camera with a CCD chip that measures 512 X 512 pixels on a side. Pixel size is 20 microns. The chip is square, with sides that measure 10.5 mm, which is just under half an inch. What a fabulous addition to our club! How can we ever thank him enough. I only hope that we can justify this superb gesture. Contact Dick via e-mail and let him know how you feel about his donation. You can reach him at redfox@i-is.com

A Magnetar, located about 50,000 light years away, in our galaxy, warped the upper ionosphere around our earth to the extent that communications were considerably disrupted around the Earth about December 27, 2004. The disruption continued for weeks. That event and the solar activity we've been having, have taken its toll on the upper atmosphere. Magnetars are extremly magnetic neutron stars with fields so intense they boggle the mind. If a Magnetar were located 10 light years away from the Earth and decided to explode, it would wipe out all life forms on Earth. An artists conception shows ionized particles hitting the Earth's atmosphere.

A dark galaxy has been discovered in the

constellation Virgo. The oval in the picture shown here shows the position of the galaxy as detected by a radio telescope. The speed of rotation of the galaxy indicates that there is more matter within, than the radio telescope can detect. It's been thought than there is 500 times the amount of dark matter in the universe than light matter. Perhaps this is the start of a method to actually measure the amount of dark matter that really exists. This may be the beginning of a breakthrough that will explain much about the true nature of this universe.

My old eyes aren't as good as they used to be. As a result, I thought I'd have to give up or reduce my time at the telescope. The days of contributing any data via observing seemed to be reaching an end. I traded my old equatorial mount for an alt-azimuth one not too long ago, further diminishing my equipments' ability to make useful measurements. At least, that's what I thought until I started reading *Observing And Measuring Visual Double Stars* by Bob Argyle. He's the president of the Webb Society in Britain. It seems that Bob is quite active measuring the position angles and separations of double stars with his trusty alt-azimuth telescope. According to him, all that's needed is a round field stop on your eyepiece, a stopwatch, with a lap timer and his computer CD (which comes with his book) to do the calculating. You don't even need a motor drive on your 'scope because the timings are made using the drift method across your eyepiece. He calls this method the ring micrometer method. See his book review in the January '05 Sky and Telescope, page 119. Who knows? This tired, shivering, old astronomer (?) might find the courage to gaze into the field of star measurements, once the frost disappears outside.



The Earth has a halo around it, but not because it's become saintly. It's because of our accumulated space junk. Most of it is debree. Left over material that was used to put our grand space schemes into fruition. A lot of it is plain old junk. Shrapnel from the disintegration of launch material like boosters, shields and tools. There's even radioactive material in orbit. The sad part about it is the amount keeps growing, posing a danger to future space proposals. We're keeping track of a lot of it. Around nine thousand pieces so far. However that only covers junk down to the size of a nut or bolt. The amount of material that's even smaller, which could also damage future space craft, is untold. A lot of the junk will end up decaying into unstable orbits and burning up in the atmosphere or landing in some uninhabitable place, hopefully.

The board of directors has decided not to mail out copies of the WASP via regular mail. It's going to save over one thousand dollars a year. The newsletter will still be mailed to you over the Internet, if you have an up-to-date e-mail address registered with the club. If you don't, you'll have to find a computer, with web access, so you can get to read it at the club's website, www.warrenastronomicalsociety.org. The newsletter is printable from the site. Personally, I feel some copies should be printed, simply to cover mailings to other clubs, new visitors and the few who don't have access to a computer.

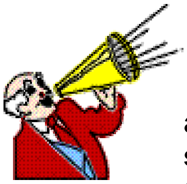
Rider's Hobby Shop had their open house, swap shop in February and the Warren Astronomical Society didn't know about it. Somewhere, in the chain of command, between Rider's and our group, the ball got dropped. Attendance was only half of what they had last year and now I can understand why. Apparently, the east side of metro Detroit didn't get the news. This can't or shouldn't happen again. Their swap shops are great events and they even had speakers along with astronomical item sales. There was the same number of tables doing sales as last year and we missed out. Grrrrrr.

I finally got a little more information and orbital elements for 73P/Schwassmann Wachmann3. If you want to insert the elements into your favorite planetarium program, here's the data; T=2006, June 9.5806, q= 0.939254, e=0.695441. Peri=198.7956, Node=69.8882, i=11.4017. Use 11.4 for absolute magnitude and 10.0 for the magnitude coefficient. The picture, shown here, was taken back in 1995 and the broken nucleus is visible, if you blow it up to around 8x10 size. I think three pieces can be seen. From the elements collected, it looks like maximum magnitude will only be around 5.0, and that occurs around May 18, 2006, when it's 4.8 million miles from the Earth.

Speakers for the month of March feature Mark Norlock and Mike O'Dowd. Mark will be showering the stars on us because he's going to give us a planetarium presentation at the next Cranbrook meeting on March 7. Guests are invited to attend this planetarium presentation, so bring someone along that will appreciate those ever clear skies under the dome. Mike will tackle the Hubble telescope and tell us all we ever wanted to know about its past, present and future at the MCCC meeting on March 17 (St. Patrick's day).

The March computer group meeting is scheduled for March 24th, (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.

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



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. PC power supply, 235 watt, switching type, ATX format. Used, replaced with a larger power supply. 586-776-9720. $15. (6-05)

FOR SALE. Parts to build an 8 in. telescope. Includes an 8 in., F7, Pyrex mirror (1/25 wave, 56.3 in f.l.), finished fiberglass tube, 1.83 in. Pyrex, elliptical diagonal mirror (1/16 wave), Tube cradle, heavy duty brass pillow block bearings mounted in pipe fittings, two wooden disks for making the mirror support and a seventy lb. Steel base with a 2 ½ in. flange, threaded for a 2 ½ in. pipe post. 586-754-4076. Asking $100 for all. (5-05).

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Minutes of Meetings by Bob Watt (Acting Secretary)

2-17-2005 BOARD MEETING Cranbrook

- Officers in attendance: Ken Bertin, Norman Dillard, Riyad Matti, Jim Shedlowsky, Vince Chrisman & Bob Watt
- Meeting start: 6:40 PM End: 7:25 PM
- Ken Bertin: There was a GLAAC meeting on 2/13 about the Kensington Star Party. Astronomy Day at Cranbrook & Stargate on 4/23, the club picnic on 7/30.
- Riyad: The bino viewer is at Stargate.

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2-17-2005 General Meeting Cranbrook

MEMBERS: 33 VISITORS: PHIL AMMAR
NEW MEMBERS: MARTY & GUS POVIRK

President, Ken Bertin, welcomed everyone to the meeting which started at 7:30 PM.

OFFICER REPORTS:

- Ken Bertin went over the new speaker timing. We have 5 or 10 minute mini talks, 20 minutes, & 45 minutes.
- 1st Vice President, Norman Dillard, covered the speakers list for the next 2 meetings.
- 2nd Vice President, Riyad Matti: The next Open House will be on 3/19/2005 at Stargate. The observatory is in good shape. the new bino viewer is at Stargate. The club is looking into getting an atomic clock for Stargate.
- Treasurer, Jim Shedlowsky: The club bank account is doing well. We now have 115 members in our organization. We are looking into purchasing pins with our club logo, the pins will be either 3/4" or 1", size to be decided later.
- Director for Publications, Vince Chrisman: We have some great news, we have received a donation from Dick Lipke, an SBIG ST-9 XE Pro Astronomical camera, with color wheel, and software, valued at over $4000.00. Vince went over details for the "Stars over Clarkston", June 11, 2005.
- Director for Public Relations, Marty Kunz, Outreach: On 2/19 a program will be at Cranbrook, the speaker is Nagin Cox, the title is "From Mars rovers to EXO planets, the lure of liquid water"
- Computer Group, Larry Kalinowski: The meeting at Gary Gathen`s had an increase in attendance. It was a good meeting.
- Librarian, Steve Uitti: Donations of a CD of our Dec party and A video on Halley`s comet & Neptune were made to our library.
- Dave D`Onofrio made note of the Texas Star Party on May 1-8. See Dave for more information.

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WAS Meetings scheduled for 2005

Cranbrook Meetings – Every 1st Monday

March	7	April	4
May	2	June	6
July	11	August	1
September	12	October	3
November	17	December	5

Macomb Meetings – Every 2nd Thursday

March	17	April	21
May	19	June	16
July	21	August	18
September	15	October	20
November	17	Dec. 15-Banquet	

March 2005 Calendar

Thrusday, Mar 3 • 12:36 pm: Last Quarter; Moon Moon occults Antares.
Sunday, Mar 6 • 1:00 am: The moon passes 5 south of Mars
Monday, Mar 7 • 7:00 pm: The Moon passes 5° south of Neptune; 10:39 pm: The Moon is at Perigee(255,702 miles from Earth
Thursday, Mar 10 • 4:10 am: New Moon
Friday, Mar 11 • 11:00 am: The Moon passes 3° south of Mercury
Saturday, Mar 12 • 11:00 am: Mercury is at greatest elongation 18° east of the Sun
Thursday, Mar 17 • 2:19 pm: First Quarter Moon
Saturday, Mar 19 • 11:00 am: The Moon passes 5° north of Saturn; 5:53 pm: The Moon is at apogee (251,560 miles from Earth)
Sunday, Mar 20 • 7:33 am: Vernal equinox
Wednesday, Mar 23 • 2:00 am: Asteroid Pallas is at opposition
Friday, Mar 25 • 3:58 pm: Full Moon
Saturday, Mar 26 • 11:00 am: The Moon passes 1.0° south of Jupiter; 8:00 pm: Asteriid Hygiea is at opposition
Tuesday, Mar 29 • 11:00 am: Mercury is in inferior conjunction
Wednesday, Mar 30 • 5:00 am: Asteroid Amphitrite is at opposition; Venus is in superior conjunction.
Thursday, Mar 31 • 10:30 pm: Jupiter's moons Io, Ganymede, and Callisto form a compact grouping west of Jupiter.

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Message from your President:

It started when I was about 5 years old, the day my 12-year-old sister brought home her 6th grade physical science book. On the cover of the book was a picture of the planets of the solar system. Upon seeing these strange multicolored orbs, I started asking questions of my parents as to what exactly these objects were. Their answers were adequate for a 5 year old but not satisfying enough.

When I started reading at 6, I started going to the library and gather as much information as I could. (Section 623). By 7, I was memorizing data about the planets and their moons as to size, mass, distance from the sun, length of their day and year. Jupiter had 12 moons, Saturn 9, Uranus 5 and Neptune 2. Pluto was 3600 miles in diameter; Mercury's day was the same length as its year, 88 days. Algae and lichens could have caused Mars green color because the color brightened and enriched during Martian seasons.

Late in my 7th year, my parents bought me a 60mm Tasco refractor with an equatorial mount, a diagonal prism, an erecting prism, a 18mm, 12mm, 9mm and (wow) a 6mm eyepiece. It even had a plate on which I could reflect the sun. Understand I had never actually looked through a telescope up to this point, so you can just imagine what happened when first I look at the moon through it. The hook however, which turned me into a lifelong hobbyist was Saturn. I flat out couldn't believe my eyes. Then, peering at Jupiter with those four tiny jewel like companions, which changed their positions each night, I looked at the phasing Venus, the Pleiades, Mizar and Alcor and M13.

That is how it all started, a passion that has lasted a lifetime. What amazes me most of all about astronomy, is the onslaught of information. How what we know is ever changing, ever accumulating at an ever-accelerating rate, somewhat like the Universe itself.

I have actually had people say to me, Astronomy is boring. I so pity that mentality. There are many people who have never looked through a telescope yet know their sign and actually believe their horoscope. This week ABC is running a two-hour show on UFOs, while PBS is rerunning the "Elegant Universe". It is a reflection of our world as to which will have the larger viewership. And worse, what people will come away from the UFO show processing what they learned from it.

For my part, that seven-year-old kid in me will always continue marvel at the amazing rings of Saturn.

Respectfully submitted,

Ken Bertin

UPDATED SPEAKER LIST FOR 2005

3/7/2005	MONDAY	MIKE NARLOCK	PLANETARIUM - NIGHT SKY ODYSSEY
3/17/2005	THURSDAY	MIKE O'DOWD	SPACE SHUTTLE: CONCEPTION, OPERATION, LOSSES & REPLACEMENT
4/4/2005	MONDAY	MICHAEL FORESTER	LORD OF THE RINGS-CASSINI/SATURN
4/21/2005	THURSDAY	VINCE CHRISMAN	VISITORS FROM OUTER SPACE
5/2/2005	MONDAY	BOB BERTA	ASTRO PHOTOGRAPHY
5/19/2005	THURSDAY	DENNIS SCHMALZEL	IMAGING WITH NEW DSI CAMERA
6/6/2005	MONDAY	ALAN ROTHENBERG	THE LONG NIGHT OF SELENOGRAPH
6/16/2005	THURSDAY	RIYAD MATTI	PRACTICAL AMATEUR ASTRONOMY
7/11/2005	MONDAY	MARTY KUNZ	LOOKING TO THE CENTER OF THE MILKY WAY
7/21/2005	THURSDAY	DAVE D'ONOFRIO	ASTRONOMY IN 3D
8/1/2005	MONDAY	DAVE WORKUN	STRING THEORY
8/18/2005	THURSDAY	STEVE UITTI	REAL SKY
9/12/2005	MONDAY	PHIL MARTIN	IMPROVING ASTRO PHOTOS W/PHOTOSHOP 7
9/15/2005	THURSDAY	LARRY KALINOWSKI	THE BACKWARD TELESCOPE
10/3/2005	MONDAY	DALE PARTIN	MEASURING DIST. TO THE SUN, THE ANCIENT WAY
10/20/2005	THURSDAY	DAVE BAILEY	ATMOSPHERES, DEEP AND SHALLOW PART II
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 Different Angle on Climate Change

by Patrick L. Barry

Look toward the horizon in almost any major city, and you'll clearly see the gray-brown layer of smog and air pollution. Yet when you look straight up, the sky can appear perfectly blue; you might think there's no smog at all!

The smog is overhead as well, but it's much harder to see. Why is there such a difference?

It comes down to viewing angles: A vertical line straight up through the atmosphere crosses much less air than a line angled toward the horizon. Less air means less smog, so the sky overhead looks blue. On the other hand,

when you look toward the horizon, you're looking through a lot more air. The smog is easier to see.

A one-of-a-kind sensor aboard NASA's Terra satellite capitalizes on this angle effect to get a better view of how clouds and air pollutants scatter and absorb sunlight. By doing so, this sensor—called the Multi-angle Imaging SpectroRadiometer (MISR for short)—is helping scientists fill in a major piece of the climate change puzzle.

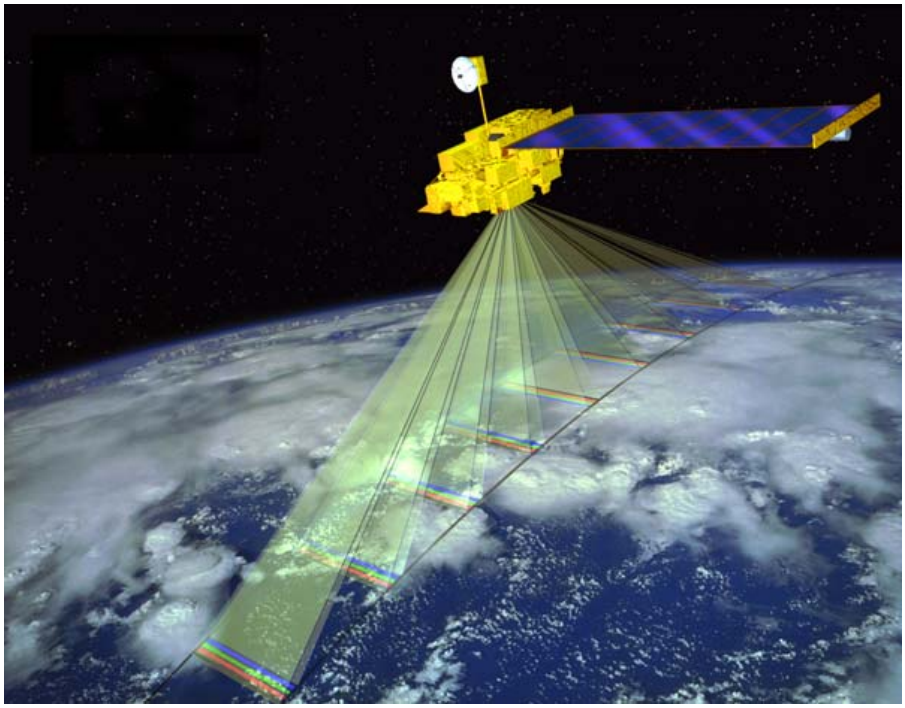
Most satellite instruments look only straight down at the Earth. Layers of airborne particles (called aerosols) and smog are harder to see with this vertical view, and clouds often appear only as two-dimensional sheets of white. Clouds and aerosols both can reflect incoming sunlight back out to space, thus cooling the planet. But they can also absorb sunlight and trap heat rising from below, thus helping warm the planet.

What is the net effect? MISR helps scientists figure this out by looking at the atmosphere at several angles—nine to be exact. Its nine cameras fan out across a range of angles from steeply looking forward (70.5 degrees from vertical), to straight down, to the same steep angle backwards. As the Terra satellite passes over a region, the cameras successively view the region at nine different angles.

From these data, scientists can construct a three-dimensional picture of the cloud cover, revealing much more about cloud dynamics than a flat image alone. They can also see light bouncing off aerosol pollution from nine different directions, thus getting a fuller picture of how aerosols scatter sunlight. And they can even spot thin layers of heat-trapping air pollutants that might go unnoticed by other satellites.

All this information comes just from looking at the atmosphere from a different angle.

For more information, see http://www-misr.jpl.nasa.gov . Kids can learn about MISR, see MISR images, and do an online MISR crossword at http://spaceplace.nasa.gov/en/kids/misr_xword/misr_xword2.shtml .



The MISR instrument on the Terra satellite views the atmosphere and Earth's surface from nine different angles.

WARREN ASTRONOMICAL SOCIETY

Monday, March 7, 2005 Cranbrook Meeting

CRANBROOK PLANETARIUM PRESENTS:

Night Sky Odyssey

by Mike Narlock, Head of Astronomy at Cranbrook Institute of Science

Find the Big Dipper, North Star, planets and constellations currently visible using a star chart. Learn about Moon phases and observe the nightly motion of the stars. Venture into interstellar space to explore our starry home, the Milky Way galaxy.

The planetarium at Cranbrook Institute of Science is an intimate theater that allows you to explore and experience the universe. It features a state-of-the-art Digistar II star projector manufactured by Evans & Sutherland Corp., a company also renowned for its simulation products for aviation and government clients. The Digistar allows star fields and other images to be projected and moved in three dimensions. The planetarium is also home to "Lasera," our laser projection system using a Star II mixed gas, water-cooled laser manufactured by Coherent, Corp. The imaging system is manufactured by Divine Lightwave Technologies, Inc. This system is based on a fiber optic cable that transmits the powerful laser light to two separate heads in the planetarium which scan colorful laser images on the dome. The scan heads are operated by digital control signals synced to the soundtrack via conventional SMPTE code. A pair of Alesis ADAT XT decks provide source signals for the entire system. In addition to Digistar and the laser system, the Cranbrook Institute of Science planetarium features several video projectors, scores of slide projectors, special effects and an industry standard SPICE automation system.

DON'T MISS THIS EXCITING MEETING!

Bring a friend!

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