The W.A.S.P. newsletter

MARCH 2004

The Warren Astronomical Society Paper

P.O. Box 1505
Warren, Michigan 48090-1505
www.boonhill.net/was

Volume 36, Number 3 // March 2004

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

The comets are coming! As mentioned earlier, in this newsletter, Comets Linear C/2002 T7 and Neat C/2001 Q4 are going to make an interesting sight this spring. Unfortunately, T7 will best be viewed in the morning around 5:00am, so they both won't be visible in the same part of the sky, during their brightest displays. Both will be visible in the north-west sky during the end of May, though not at their brightest. T7 is observable right now in the western, evening, sky as a sixth magnitude object, in Pegasus, near the star Algenib. Q4 won't become observable until early May but will become a spectacular sight, high in the western, evening, sky for at least a month, maybe more. Both comets are behaving as expected and following their predicted brightness. They're both expected to become as bright as first magnitude or even brighter. I'll talk about the best time to view these comets in future issues of the WASP. So keep reading this newsletter. This could be the best comet viewing since Hale-Bopp and Hyakutake.

COMET LINEAR C/2002 T7 - PHOTO BY DENNIS PERSYK JAN. 13, 2004

A new state of matter? Something besides gases, solids, liquids, plasmas and a Bose-Einstein condensate? Don't look now but it's another step further into the super conducting world of electricity. Deborah Jin, a recent recipient of the MacArthur Foundation's "Genius grant" was expanding on the work of Eric Cornell and Carl Wieman, winners of

the Nobel prize in physics, for their work in understanding a Bose-Einstein condensate, another form of superconducting matter. Basically, Jin made her superconductor by supercooling Potasium atoms, creating a form of Fermions, not Bosons, as the Einsteinian condensate is composed. Fermions may be easier to use to create a room temperature superconductor because Fermions are what most solid matter is made of, like Neutrons, Protons and electrons.

I forgot to mention that Nancy Rowe's replacement for treasurer is Jim Shedlowski. Jim, recently awarded the most promising new amateur astronomer in our group, has taken on the job with gusto. His newly purchased Schmidt-Cassagrain is getting a workout around the club's favorite observing sites.

A load of jackets with our club logo on the back and names embroidered on the front, have arrived and were being distributed by Bob Watt at the last club meeting. If you ordered one, come and get it, before it's scarfed up by some greedy member of our club.

The March first meeting at the Cranbrook Science Museum will feature another planetarium show. If you missed the one last year or would like to bring a friend to see the show this time, now's your chance to make up for it. There's no charge for admission into the planetarium, however, you must be on time for the presentation because you won't be let in after the show starts. There were over forty people present for the last show.

The MCCC meeting, on the 18th, will bring Dave D'Onofrio's next CCD talk, featuring his trials and tribulations with this new fangled kind of photography.

The latest program added to the WAS program library is K3CCDTOOLS. It's another, popular, frame stacking program for video cameras, either hand held or web type. It has video enhancing capabilities also. So if you're not satisfied with your resulting pictures, try this latest popular program. You must have a video capture program or video capture board to move your video frames to your computer.

The computer group is being revived again. Gary Gathen will be our host, again, at his place on the fourth Thursday of every month, starting on March 25th. Gary is a resident of 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 for any further information.

Our hotline has been shut down. If you distribute business cards for our club or tell people about getting to our web site at boonhill.net or warrenastronomicalsociety.org, please mention that the hotline no longer is running. Our club dropped the service because of low usage. It no longer pays to keep the service running.

- -

MINUTES OF MEETINGS

By Bob Watt, secretary
Cranbrook Meeting 02/02/04

Members in attendance 36

Visitors-----7

Meeting started at 7:35PM

Norman Dillard, 1st VP opened the meeting with the introduction of officers.
Sub Group News:

Larry Kalinowski, there is going to be a revival of the Computer Group. The group will meet at Gary Gathen`s home. Meeting times & dates are being worked out.

Marty Kunz, Solar Group, no spots last week.

Ryiad Matti, 2nd VP, went over details on Stargate & the scopes available for member use. A new subgroup is in the planning stages, Beginners", to meet at Stargate. There will be an open house at Stargate on the last weekend in Feb.

We have a new Treasurer, Jim Shedlowsky who replaced Nancy Rowe who moved to the Carolinas to teach science.

Ken Chrysler, Something to look forward to, on March 28 at 3:00AM there will be three moons casting shadows on Jupiter's surface at the same time.

After the 8:45 break Norman Dillard gave a program on the 10 brightest stars. Very interesting & well done.

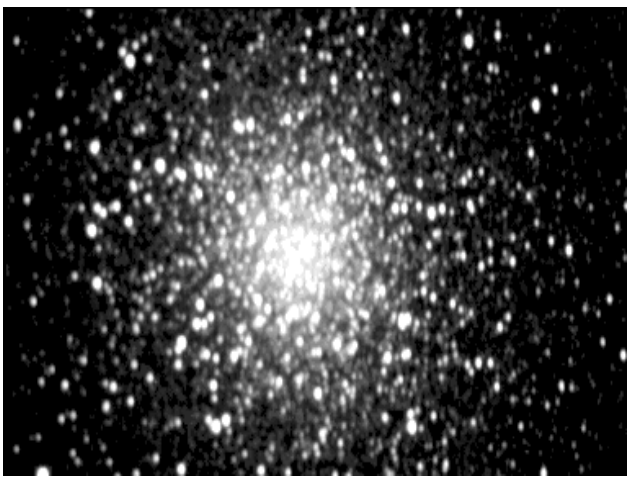
THE SWAPSHOP

This column is for those who are interested in buying, trading or selling items. Call 586-766-9720 (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. Celestron, 8 in. Schmidt Cassegrain, 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 $669. 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 $359. starmikebest@aol.com (8-04).

FOR SALE. Refractor, 3 in., metal tube, 1 ½ 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 $439. starmikebest@aol.com. (8-04).



M13 by Phil Martin

UPCOMING WAS EVENTS

Mar	Mon. 1	7:30 pm	Cranbrook Meeting
	Thur. 18	7:30 pm	Macomb Meeting
Apr	Mon 5	7:30 pm	Cranbrook Meeting
	Thurs 15	7:30 pm	Macomb Meeting
May	Mon 3	7:30 pm	Cranbrook Meeting
	Thurs 20	7:30 pm	Macomb Meeting
Jun	Mon 7	7:30 pm	Cranbrook Meeting
	Thurs 17	7:30 pm	Macomb Meeting
Jul	Mon 5	7:30 pm	Cranbrook Meeting
	Thurs 15	7:30 pm	Macomb Meeting
Aug	Mon 2	7:30 pm	Cranbrook Meeting
	Thurs 19	7:30 pm	Macomb Meeting
Sep	Mon 6	7:30 pm	Cranbrook Meeting
	Thurs 16	7:30 pm	Macomb Meeting
Oct	Mon 4	7:30 pm	Cranbrook Meeting
	Thurs 21	7:30 pm	Macomb Meeting
Nov	Mon 1	7:30 pm	Cranbrook Meeting
	Thurs 18	7:30 pm	Macomb Meeting
Dec	Mon 6	7:30 pm	Cranbrook Meeting
	Thurs 16	7:30 pm	Holiday Awards Banquet

Scheduled Speakers 2004

By Ken Bertin

DATE	DAY	PRESENTER	SUBJECT
2/2/2004	MON	NORM DILLARD	10 BRIGHTEST STARS
2/19/2004	THU	NANCY ROWE	AURORAE/RADIO PROPAGATION
3/1/2004	MON	PLANETARIUM	
3/18/2004	THU	DAVE D'ONOFRIO	PROCESSING CD IMAGES
4/5/2004	MON	STEVE UITTI	TBA
4/15/2004	THU	LARRY KALINOWSKI	TBA
5/3/2004	MON	MIKE BEST	S.E.T.I.
5/20/2004	THU	VINCE CHRISMAN	TBA
6/7/2004	MON	JIM SHEDLOWSKY	IRIDIUM FLARES
6/17/2004	THU	KEN BERTIN	TRANSIT OF VENUS
7/5/2004	MON	ALAN ROTHENBERG	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	TBA
10/4/2004	THU	ED STARBACK	PLUTO

March Calendar

Monday, March 1
- 5:00 am: The Moon passes 5° north of Saturn

Wednesday, March 3
- 12:00 am: Jupiter is at opposition
- 9:00 pm: Mercury is in superior conjunction

Saturday, March 6
- 11:00 am: The Moon passes 3° north of Jupiter
- 6:14 pm: Full Moon

Sunday, March 7
- 10:00 am: Satrun is stationary

Thursday, March 11
- 9:00 am: Asteroid Iris is at opposition
- 10:53 pm: The Moon is at perigee (229,601miles from earth)

Saturday, March 13
- 4:01 pm: Last quarter Moon

Wednesday, March 17
- 4:01 am: The moon passes 5° south of Neptune

Thursday, March 18
- 3:00 pm: The Moon passes 4° south of Uranus

Saturday, March 20
- 1:49 am: Vernal equinox
- 5:41 pm: New Moon

Sunday, March 21
- 12:00 am: The Moon passes 4° south of Mercury

Wednesday, March 24
- 4:00 pm: The Moon passes 2° south of Venus

Thursday, March 25
- 7:00 pm: The Moon passes 0.8° north of Mars

Saturday, March 27
- 2:01 am: The moon is at apogee (251,358 miles from earth)

Calendar courtesy of Jim Mills – Check out his web site at: http://www.njnightsky.com.

~ ~

IF THE MILKY WAY GALEXY WAS A DOT

By
Dave Workun

Analogies in astronomy set my mind reeling. I like to conclude a night of binocular viewing by settling in my favorite chair and perusing through astronomical lore. It is here that astronomers have such fun transporting me among the stars. So that you can have an idea of what I must deal with as a novice, here is a recent example of one of my typical trips as a fledgling star traveler.

Vogt tells me in The Solar System: Facts and Exploration that if Earth were the size of a bowling ball, the atmosphere would be only as thick as a piece of yarn around it. This I can accept, until I get out the actual bowling ball and wrap the yarn around it. Suddenly I feel exposed to the void and I begin to quiver. But I move on.

In New Astronomer, Stott tells me that some 109 Earths would fit across the face of the Sun. That's a lot of Earths and I count them, but there is no time for rest when she quickly adds that 1.3 million Earths would be needed to fit inside the Sun. I start with ten Earths, then a hundred. At 1,000 Earths I develop a shiver, and at 10,000 Earths I begin to tremble. 100,000 Earths I cannot do and I am forced to conclude that the Sun is colossal indeed. But still I move on.

I decide on a pleasant trip to Pluto. In The Wrong-Way Comet, Evans tells me to use the ball of a medium ballpoint pen for Earth, an orange for the

Sun, and a grain of sand for Pluto. The grain of sand is quite small and I hold it carefully between thumb and forefinger. I extract the ball from the pen using wire cutters and place it on my desk and then note that I must place the orange 38 feet away. I dutifully march out of the room and down the hall as I pace off the steps. I place the orange on a window sill by the back door and return. Now I read that the grain of sand should be placed at a distance of 1500 feet from the orange. I accidentally drop the grain of sand and cannot find it. I sit back into my captain's chair.

Now I am prepared for the voyage to the nearest non-Sun star. Rosen's How Far is a Star? suggests that I use a BB pellet for the Earth and a basketball for the Sun. I place the BB pellet next to the ball of the pen and pace off some 25 yards for the basketball. This takes me past the orange, out the backdoor, and across the yard until I place the basketball on some clover before a rosebush. After I return to my chair I am told to obtain a second basketball for Proxima Centauri and to place it 4,000 miles away. Since I live in the upper mid-west, that would bring me to Peru. As I sink back into my chair, I have dizzying thoughts of a basketball ensconced on the tip of an Andes mountain overlooking the Temple of the Sun in Cuzco. But yet I move on.

I make a short voyage to 61 Cygni where I can do some parallax work. In "The Race to Measure the Cosmos" by Hirschfeld, my November 2001 Sky & Telescope tells me the parallax angle for 61 Cygni measured from my chair is one-third arcsecond. Being comfortable with numbers like one-third, I can now relax. Then I am informed that one-third arcsecond is equivalent to the apparent size of a Manhattan taxicab as viewed from Mexico City. I see myself at the Templo Mayor in Chapulltepec Park viewing a yellow cab at Broadway and Fifth. I drop lines to the front and rear bumpers and inspect the included angle. Fortunately I have forgotten my protractor and I return to my chair. It is time to move on.

It now occurs to me that some physics work with elementary forces would help me in my understanding of the stars. Greene in The Elegant Universe suggests that if my right bicep represents the strength of the gravitational force, them my left bicep would have to extend beyond the edge of the known universe to represent the strength of the electromagnetic force. This brings a quick end to my examination of the four forces.

I decide to proceed to the edge of the universe. But I learn this is not so easily done. In NightWatch, Dickinson tells me that in the time it takes to read this sentence, the universe will increase in volume by 100 trillion cubic light-years. I return to my living room.

Finally, I am able to bring my star traveling into perspective. In Magnificent Universe, Croswell relates that if the Milky Way Galaxy were the size of a period in a sentence, then the observable universe would only be slightly larger then my living room. I survey my living room and conclude that the universe is actually smaller than most people think.

After a soft landing in my chair, I carefully place the books back into their places on the shelf. I gingerly make my way out the back door, retrieve the basketball, and "look up in perfect silence at the stars." ~END~

Editor's note: References for the above article are available on request.

REU program, N.A.Sharp/NOAO/AURA/NSF
Image File
This picture was prepared for a popular talk in order to illustrate just how large the Andromeda galaxy is on the sky

Article Compliments of Nancy Leon of JPL/NASA

Deep Space Network 2-for-1 Sale!

By Patrick L. Barry

Call it a "buy one, get one free" sale for astronomers: Build a network of radio dishes for communicating with solar-system probes, get a world-class radio telescope with a resolution nearly as good as a telescope the size of Earth!

That's the incidental bonus that NASA's Deep Space Network (DSN) offers the astronomy community. Designed to maintain contact with distant spacecraft in spite of the Earth's rotation, the large, widely spaced dishes of the DSN are ideal for performing a form of radio astronomy called "very long baseline interferometry" (VLBI).

VLBI produces very high resolution images of the cosmos by combining the output from two or more telescopes. The result is like having a giant "virtual" telescope as large as the distance between the real dishes! Since bigger telescopes can produce higher resolution images than smaller ones, astronomers need to use dishes that are as far apart as possible.

That need dovetails nicely with the DSN's design. To maintain continuous contact with deep space missions, the DSN has tracking stations placed in California, Spain, and Australia. These locations are roughly equally spaced around the Earth, each about 120 degrees of longitude from the others-that way at least one dish can always communicate with a probe regardless of Earth's rotation. That also means, though, that the straight-line distance between any two of the stations is roughly 85 percent of Earth's diameter-or about 6,700 miles. That's almost as far apart as land-based telescopes can be.

"We often collaborate with other VLBI groups around the world, combining our dishes with theirs to produce even better images," says Michael J. Klein, manager of the DSN Science Office at NASA's Jet Propulsion Laboratory. "Since our 70-meter dish in Canberra, Australia, is the largest dish in the southern hemisphere, adding that dish in particular makes a huge difference in the quality of a VLBI observation."

Even though only about 1 percent of the DSN's schedule is typically spared from probe-tracking duty and scheduled for radio astronomy, it manages to make some important contributions to radio astronomy. For example, the DSN is currently helping image the expanding remnant of supernova 1987A, and Dr. Lincoln Greenhill of the Smithsonian Astrophysical Observatory is using the DSN dishes to explore a new way to measure the distances and velocities of galaxies.

And all this comes as a "bonus" from the dishes of the DSN.

To introduce kids to multi-wavelength astronomy, NASA's website for kids, The Space Place, has just added the interactive demo, "Cosmic Colors," at spaceplace.nasa.gov/cosmic .

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

If you would like to renew your membership and have not already done so, or if you would like to become a member of the Warren Astronomical Society, please complete the following and submit with the appropriate US funds by Check or Money Order.

Membership	Definition	Dues (US Funds)
Student	One person under 18 years of age enrolled in grades 1-12	$17.00
College	One person attending a College or University	$22.00
Sr. Citizen	One person 65 years of age or older	$22.00
Family	More than one person living at the same address	$37.00
Individual	One person not fitting a category above	$30.00

Fill in the WAS application and send it to our current Treasurer:

- **Jim Shedlowsky**
- **c/o Warren Astronomical Society**
- **P.O. Box 1505**
- **Warren, Michigan 48090-1505**

--tear here-- --tear here-- --tear here--

- -

Warren Astronomical Society

Membership Application

About You: DATE____________

Name(s): ______________________________

Address: ______________________________

____

Telephone: ______________________________

E-Mail: ______________________________

Membership Type:

Individual $30.00_____

Family $37.00_____

College Student $22.00_____

Student $17.00_____

Sr. Citizen $22.00_____

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

TO:

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