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: clifford@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

I hope you’ve had a chance to observe Comet Machholz. Many amateurs have taken pictures of this comet or enjoyed a glimpse through a pair of binoculars or telescope. It’ll be around for awhile, moving into the northern sky in January and February. The latest pictures show two tails, more than ninety degrees apart. The shorter tail may be a new jet that erupted as it approached the Sun. At the last count, about 600 observations of this comet, from amateurs around the world, were submitted to the JPL comet site, run by Charles Morris. As of January 27, the magnitude was 4.5.

Some of you that were at the January Cranbrook meeting got a chance to read about the comet 73P/Schwassmann-Wachmann in my last COMET NEWS newsletter. I haven’t verified it’s close approach to the Earth, as yet. I only passed along a rumor that I had read about on the net. The interesting thing, is its supposedly close approach to the Earth, this coming May 17. Not only will that proximity to the Earth bring naked eye viewing but its possible it’ll produce a tail that will cover half the sky. All this depends on how true that rumor is. How much tail, also depends on how close it’ll get to the Sun. This comet was discovered back in 1930 and almost each approach to the Sun has broken the comet into another piece. So far there are five pieces, with labels A,B,C,D and E. Getting too close may even shatter the nucleus into even more pieces. Break-ups of prominent comets aren’t new. Hale-Bopp broke up into pieces with its trip around the Sun. Most are shatterings, only visible with a telescope. Some break-ups are bright enough to be seen without optical aid. This comet isn’t known for its bright approaches. So, there will be more on this event when more information comes in.

The Huygens moon lander has transmitted the first close up pictures of Titan. Other pictures showed the probe approaching the moon from a few thousand meters above the surface but the picture shown is the first one from the surface, with its color corrected. The slight haze seen is probably methane, which covers most of the planet and keeps our
ground based telescopes from seeing any detail. Above surface shots showed river like markings that probably were made with some form of liquid hydrocarbons. Titan is the only moon in the solar system, besides our own Moon, that has been closely photographed.

Spot number 720, on the Sun's surface is growing in intensity. The photo below shows it on January 14, 2004. If it continues to grow, it could provide another display of Northern Lights, like those seen a couple of months ago. You can keep tabs on this spot by visiting spaceweather.com or soho.com on the net.

Our old friend, Steven Hawking, made news again, at the Max Plank String Conference, in Germany. He claims that after twenty years of studying String theory, physicists are at the same place they were when they started, and it may take another twenty years to come to grips with the theory. More physicists than ever before are trying to understand the far reaching claims that some have proposed about the theory but, so far, to little practical avail.

If you think today's telescopes are big, take a look at what's been ordered for the future. How about a 25.4 meter (eighty feet) optical telescope? Consisting of seven segments, each a little over eight meters in diameter, the combination will be the GMT or the Giant Magellan Telescope. The drawing, below, shows how the mirrors will be configured. It stands next to an existing 6.5 meter Magellan telescope. The design is the result of the thinktank that's called the CFA, the Center For Astrophysics, a joint venture of Harvard Observatory and The Smithsonian Astrophysical Observatory. The order for the first mirror was given to The University of Arizona. The telescope is expected to be completed by 2016.

Speakers for the month of February are Norman Dillard and Guy Maxim. Norm will continue his talk on exoplanets. You know, those planets that are being discovered, nearly once a week, outside our solar system. Look for Norm's talk at the Cranbrook meeting on February 7. Guy Maxim will talk about Neutron stars. Those collapsed stars that are the result of being overweight, by stellar standards. His talk is at the MCCC meeting on February 17.

Jim Shedlowski's talk, last month, about the Texas Star Party was even better than I expected. Even though Jim had to leave a little early from the party, his photo documentary covered quite a bit about the grounds, facilities and side programs. His only regret was that he couldn't stay all week long because of an emergency in Michigan. Jim says he's anxious to get back to Texas for the 2005 party. Attendance is held to about six hundred people, and even then, entries are picked in a lottery.

Dave Bailey's talk, at the last MCCC meeting, about the atmosphere proved very interesting too, because it can be applied to atmospheres on other planets as well. He has a great delivery when he speaks, as all ears were glued to what he was able to cover. A handout that he made covered thirteen pages of data and he was only able to go through the Earth data that night. The first six pages. So, as you might expect, his talk will proceed at another time.

The sky atlas of Hipparchus (140-125 BC), the Greek philosopher, has been found, in the form of a globe resting on the shoulders of Atlas, a statue that now resides in Italy. The positions of the stars, mainly the celestial pole, dates the sculpture to around 125 BC. This isn’t the famed Atlas holding the Earth, but a copy of it, made by the Romans, with the night sky on his shoulders. Hipparchus is known for making the first star catalog, with 1,000 stars in it. He's the first observer to recognize precession (Earth wobble), record the first Nova, develop a stellar magnitude scale and to measure the year's length to within six and a half minutes. His discoveries are recorded in his work called Commentaries.

Riyad Matti’s observatory report gave the dates of future open houses at Stargate Observatory. They will be the same as some of the more important dates such as Spring cleanup on March 19, Astronomy Day on April 16, the club picnic on July 10 and the Perseid meteor shower on August 13. The February open house is on the 12th.

Would you believe that 900 comets have been discovered with the help of data that came from the SOHO probe? Would you also believe that nearly seventy-five percent of those discoveries have been by amateur astronomers? Well, believe it because it's all documented. Those discoveries have piled up since the year 2000. That's about 180 comets a year. Estimates are saying number 1,000 is due to be discovered sometime later this year. You can win a prize if you can guess the approximate date and time that comet number 1,000 reaches perihelion. Enter the contest by going to the web site: http://soho.nascom.nasa.gov/comet1000/.

Binocular viewing, at the telescope, will come to sixteen people that have ordered the Burgess Binoviewer through Bob Berta, our club secretary. As a result, the club gets a free binocular viewer for the observatory.

The February computer group meeting is scheduled for February 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 (ehlers71@comcast.net) if you want to put an item for sale or trade in this section of the WAS. 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).

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. (3-05).

FOR SALE. Refractor, 3 in., metal tube, 1 ½ 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. (3-05).

From our Librarian:

The Warren Astronomical Society's library has videos too. Among them is "Apollo 11: The Eagle Has Landed", a VHS tape in good condition with two programs. The first is the title show, and runs under 30 minutes. It appears to be Apollo from about the 1991 copyright vantage. This program is excellent: well written and executed. It presents the highlights of the single moon landing mission.

The second is about 50 minutes, called "NASA the 25th year". As NASA was founded in 1958, It covers NASA history until about 1983, ending with the first few flights of the Columbia and Challenger shuttle missions. It briefly shows Mercury, Gemini and Apollo missions, Skylab, the joint Russian rendezvous missions. It mentions the aeronautics programs including lifting body, X-15, light aircraft, wind tunnel including icing, and materials research. It ends with references to the as yet unnamed Hubble Space Telescope and the International Space Station which are, at the time, proposed programs.

I found that ambiguities and outright errors in the script and narration detracted from the work. For example, the Russians photographed the far side of the moon first, not the early US explorer series, as suggested. Yet, the program correctly starts with reference to Sputnik as the first artificial satellite. Still, I watched it over a couple nights dinners. It forms a reasonable review of events, and cheap entertainment. Stop by the library at a Macomb meeting and check it out!

Stephen Uitti,
WAS librarian.

More from our Librarian:

On September 28th and 29th, 2004, Nova aired the 4 hour "Origins" special program narrated by Neil deGrasse Tyson. A DVD movie trailer of this program was acquired and donated to the WAS library. The DVD picture quality is, of course, superior to the original show that I saw on cable. I was expecting a two to four minute trailer giving a brief teaser to the movie, but without providing any information. Instead, it's a very well edited 17 minute summary of the 4 hour show. If you don't have time to view the entire show, it's more than worth 17 minutes of your time to get an idea of the scope presented. Stop by the library at a Macomb meeting and check it out!

Stephen Uitti,
WAS librarian.
Minutes of Meetings by Bob Berta
1-3-2005  BOARD MEETING  Cranbrook
Meeting started at 6:30pm

Board members in attendance:
Norman Dillard  Jim Shedlowsky  Bob Berta
Riyad Matti  Marty Kuhne  Vince Chrisman

(Ken Bertin notified us that he would be late for the meeting and that Norman would fill in for him)

Riyad Matti discussed Yahoo group notification of open houses and also told us he has the proposed open house schedule.

Vince Chrisman told us he has a tentative date of a joint Clarkston Community Band Concert with a Multi-Media astronomy show by the club. It would tentatively be in May. The plan calls for a concert in the early evening with solar viewing before hand for the audience…and night observing after the concert.

Jim Shedlowsky discussed notification from Cranbrook of the new written policy for use of the facility. He also indicated that the Xmas party broke even thanks to the generous raffle donations and hard work of Bob Watt in contacting the potential donors.

Bob Berta said he has a lot of members expressing interest in the Burgess Binoviewer offer from High Point Scientific. He contacted the company and the company will donate a free binoviewer and two free eyepieces to Stargate thanks to the large order. They also asked to be contacted when it comes time for our annual "beg list" to prospective Xmas party donors later this year.

The board meeting ended at 6:15 pm.

1-20-2005  BOARD MEETING  Cranbrook
Meeting started at 6:50

Board members in attendance:
Ken Bertin  Norm Dillard  Bob Berta
Jim Shedlowsky  Riyad Matti

Ken gave an update on new Cranbrook “rules” and the board decided to have a few board members meet with Melissa Fletcher to discuss.

Riyad told us the final observatory schedule is now available and posted. Plan to have a 2 hour window of time prior to open houses for a internet notice if open house is a go or not based on windows. Schedule to include:

Spring Clean Up on March 19th at 6:00pm
National Astro Day on April 16th 3:00 pm
Tent. Picnic day on July 30th
Additional picnic day in month of October tentatively
Perseids Meteor shower on Aug. 13th
There is still some minor roof repair work to be done.

Bob Berta read minutes of last board and general membership meeting. He will be on an astro vacation throughout month of February and Bob Watt will cover for him. He reported that a total of 16 members wanted the Burgess Binoviewer offer and reported that they are ordered an due in any day (did come in and in process of being distributed). Company provided a free binoviewer and eyepieces for free for Stargate. Also wanted to be included when we request donations for our Xmas party raffle.

Norman…only two spots left on 2005 speakers calendar.

Vince reported that the June joint Clarkston community band/Warren Astronomy Society event is approved…more to follow.

Jim Shedlowsky discussed options for newsletter distribution and will review them further. At issue is the cost of printing and distribution and postage. Most members are happy to get it via internet.

Meeting ended at 7:30 prior to General membership meeting start.

NASA Notice from Nancy Leon - JPL
The NASA Institute for Advanced Concepts (NIAC) seeks to identify creative and innovative students who possess an extraordinary potential for developing advanced concepts in the fields of aeronautics, space and the sciences.

Each Student Fellow will receive a total of $9,000 for the Academic year 2005-2006. NIAC intends for these awards to benefit talented individuals who have shown extraordinary originality and dedication in their academic pursuits and a marked capacity for self-direction. The Fellowship seeks exceptional creativity, and the promise for important future advances based on a track record of significant accomplishment, and potential for the fellowship to facilitate subsequent creative work.

Applicant must be in a U.S. institution of higher education Applicant must be a U.S. Person. Applicant must apply no later than their junior year of college

Please visit http://niac.usra.edu/students/call.html for more information.
Welcome New Members!

David Robertson Ray Twp.
Frank Boyle Grosse Pointe
James Buhl Madison Heights
Neil Bradley Detroit
Larry Phipps Redford
Lloyd Kaufman Saint Clair Shores
Les & Caroline Walowicz Shelby Twp.

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WAS Meetings scheduled for 2005

Cranbrook Meetings – Every 1st Monday
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Macomb Meetings – Every 2nd Thursday
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Stardust Up Close
by Patrick L. Barry and Dr. Tony Phillips

Like discarded lumber and broken bricks around a construction site, comets scattered at the edge of our solar system are left-over bits from the "construction" of our solar system.

Studying comets, then, can help scientists understand how our solar system formed, and how it gave rise to a life-bearing planet like Earth.

But comets have long been frustratingly out of reach -- until recently. In January 2004 NASA's Stardust probe made a fly-by of the comet Wild 2 (pronounced "vilt"). This fly-by captured some of the best images and data on comets yet ... and the most surprising.

Scientists had thought that comets were basically "rubble piles" of ice and dust -- leftover "construction materials" held together by the comet's feeble gravity. But that's not what Stardust found. Photos of Wild 2 reveal a bizarre landscape of odd-shaped craters, tall cliffs, and overhangs. The comet looks like an alien world in miniature, not construction debris. To support these shapes against the pull of gravity, the comet must have a different consistency than scientists thought:

"Now we think the comet's surface might have a texture like freeze-dried ice cream, so-called 'astronaut ice cream': It's solid and can assume odd, gravity-defying shapes, but it's basically soft and crumbles easily," says Donald Brownlee of the University of Washington, principal investigator for Stardust.

Scientists are currently assembling a 3-D computer model of this surface from the photos that Stardust took. Those photos show the sunlit side of the comet from many angles, so
its 3-dimensional shape can be inferred by analyzing the images. The result will be a "virtual comet" that scientists can examine from any angle. They can even perform a virtual fly-by. Using this 3-D model to study the comet’s shape in detail, the scientists will learn a lot about the material from which the comet is made: how strong or dense or brittle it is, for example.

Soon, the Stardust team will get their hands on some of that material. In January 2006, a capsule from Stardust will parachute down to Earth carrying samples of comet dust captured during the flyby. Once scientists get these tiny grains under their microscopes, they’ll get their first glimpse at the primordial makings of the solar system.

It’s heading our way: ancient, hard-won, possibly surprising and definitely precious dust from the construction zone.

Find out more about the Stardust mission at stardust.jpl.nasa.gov. Kids can read about comets, play the “Tails of Wonder” game about comets, and hear a rhyming story about aerogel at: http://spaceplace.nasa.gov/en/kids/stardust/.

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

The Stardust spacecraft used a grid holding aerogel to capture dust particles from comet Wild 2. In this test, high velocity dust particles are stopped unharmed at the end of cone shaped tracks in a sample of aerogel.

Editor’s note: An updated list of WAS Speaker’s Schedule will be published next month. If you need to see the list, it can be found at www.boonhill.net/was, or check the January issue.

Feel free to e-mail me at cliffordj@ameritech.net with your concerns about what is published or to submit an article.

Respectfully,
Cliff Jones