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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.

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Astro Chatter by Larry Kalinowski

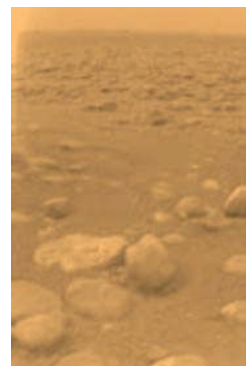
I hope you've had a chance to observe Comet Machholz. Many amateurs have taken pictures of this comet or enjoyed a glimpse through a pair of binoculars or telescope. It'll be around for awhile, moving into the northern sky in January and February. The latest pictures show two tails, more than ninety 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.



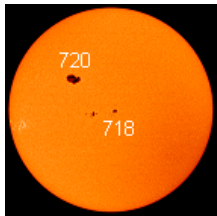
Some of you that were at the January Cranbrook meeting got a chance to read about the comet 73P/Schwassmann-Wachmann in my last COMET NEWS newsletter. I haven't verified it's close approach to the Earth, as yet. I only passed along a rumor that I had read about on the net. The interesting thing, is its 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

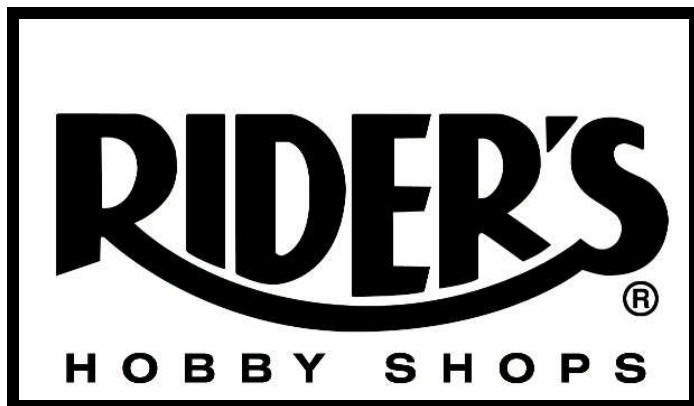
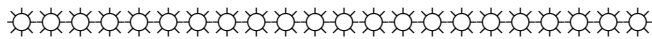
its 3-dimensional shape can be inferred by analyzing the images. The result will be a "virtual comet" that scientists can examine from any angle. They can even perform a virtual fly-by. Using this 3-D model to study the comet's shape in detail, the scientists will learn a lot about the material from 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.

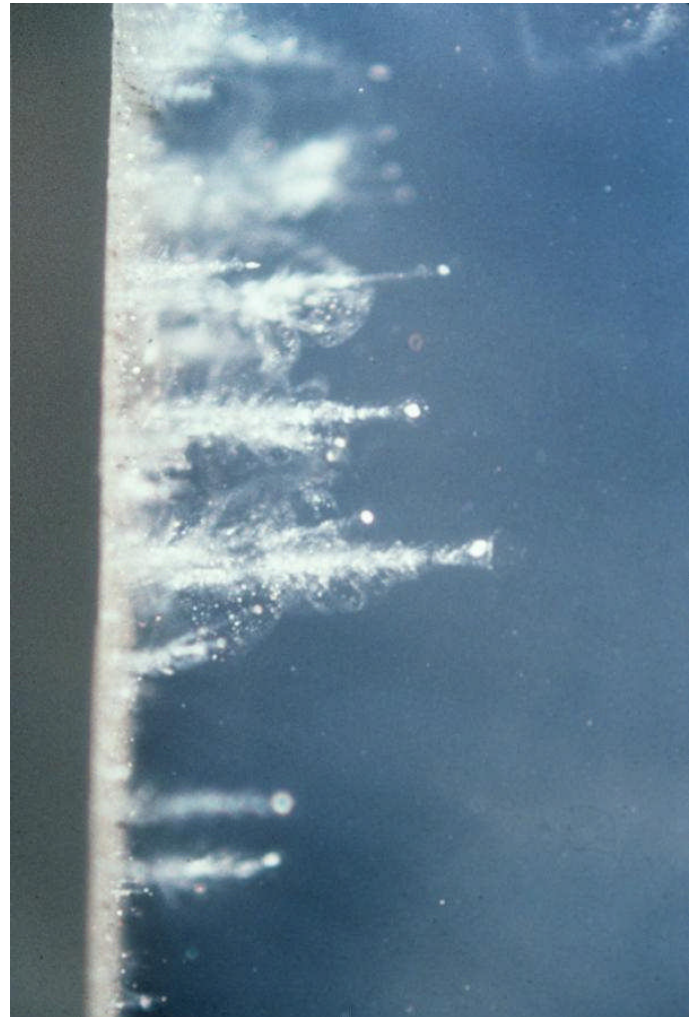
It's heading our way: ancient, hard-won, possibly surprising and definitely precious dust from the construction zone.

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/>.

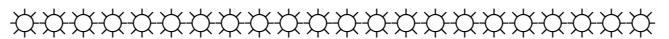


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This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

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