

The Warren Astronomical Society Paper

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

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2007 WAS OFFICERS

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President	Norm Dillard	email: jupiter1927@sbcglobal.net
1 st VP	Riyad Matti	email: riyadmatti@yahoo.com
2 nd VP	Robert Berta	email: biker123@netzero.com
Secretary	Dale Partin	email: dpartin@comcast.net
Treasurer	Dr. Phil Martin	email: drpdmartin@hotmail.com
Steve Uitti	Director, Publications	email: suitti@uitti.net
Marty Kunz	Director, Public Relations	email: solarmartykz@att.net

The WASP (Warren Astronomical Society Paper) is the official monthly publication of the Society. Each new issue of the WASP is e-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



A natural bridge has been discovered by the Mars Reconnaissance Orbiter in the Tartarus Colles region. The bridge, in the picture's center, lies between two troughs, and is about 75 feet wide. In the past, the trough was probably a lava tube, that has now run dry.



Another year passed and awards were plentiful at our Banquet last December 21. I don't have a breakdown of the awards made but I can tell you that those awards were well deserved. Door prizes were interesting too. There was a laser collimator, a Barlow, programs Called The Sky (V6.0) and Redshift (V3.0), an eyepiece, books

on bad astronomy and the Messier objects, an astronomer's all purpose field knife as well as two subscriptions to Astronomy magazine and some discounts on astronomical equipment. Unfortunately, Larry Phipp's presentation of last year's club events wasn't able to be shown because of projector problems. It may become part of one of the monthly programs. The main speaker, Ken Bertin, gave an excellent talk on Manned Space Travel and the problems to be encountered. By the way, five dollars was refunded to all those that paid thirty dollars for the banquet. The club felt the dinner charge was a little too high. That refund resulted in many more raffle tickets being sold. The 2007 banquet will be on December 20.

Some of us met at Michele's Restraunt the week of Thanksgiving to say hello to Ken Wilson and his wife Betty. They were in town visiting his parents and took time out for the luncheon. Present were myself, Gerry and Margaret Alyea and Diann Ingrao, all were active WAS members during the sixties and seventies. Gerry was the builder and designer of the original 12 1/2 inch Cassagrain that was installed in Stargate

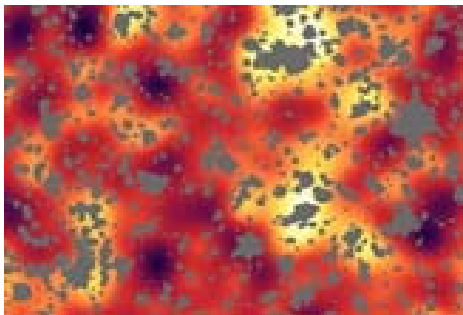
Observatory. It also was resident in the Lincoln High School rooftop observatory (near Nine Mile and Van Dyke, in Warren MI) for a few years before moving to Stargate. Ken is a natural history museum curator that also runs the planetarium and he's the author of Making And Enjoying Telescopes. Diann was better known as Mrs. Frank McCullaugh during those years.

This month starts the sixteenth year for my Chatter articles. When I first started writing them it was called Computer Chatter. The topics were mostly computer stuff with astronomy thrown in once in a while. Now it's mostly astronomy stuff.

Rik Hill, the amateur turned professional astronomer I talked about last month, e-mailed me to say thanks for the recognition I gave him for his comet discovery. But he floored me when he said that he had discovered five other comets. Four in '06 and a couple, in years before. Sounds like he's going to give David Levy a run for the checkered flag.

Astronomers may have photographed the very first objects that came into existence after the Big Bang. Having the mass of about one hundred times the expected mass that theory predicts will develop, they aren't sure whether these objects are stars, galaxies or black holes. Present day galaxies are thousands of times bigger than the discovered objects but present theory says

today's galaxies have grown because of mergers with other galaxies since the Big Bang.

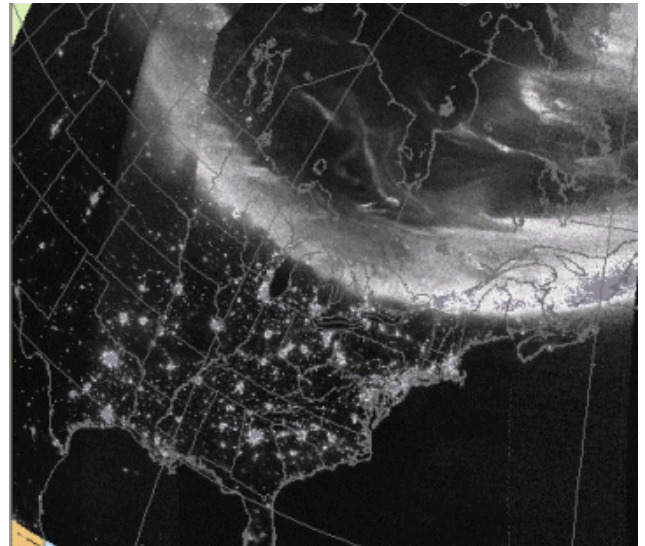


Those mergers and close encounters are the reason spiral arms have formed around many galaxies. Early galaxies can be round, irregular or globular looking.

Our treasurer, Dr. Phil Martin, has proposed the creation of a WAS calendar that shows some of the club's astrophotography and special events from the year on a 2007 large wall calendar. It'll have a top page with a club picture for each month and a bottom page with the monthly information. Price is \$15.00. Subscribe for it at

the next meeting or contact Phil at drpdmartin@hotmail.com.

In the photo below, a portion of an auroral ring can be seen covering a part of the eastern United States. It's a composite of more than one picture taken by a satellite in the December 12 thru 15 time span. The state of Michigan is located about in the middle of the picture. The southern portion of the ring just reaches the Detroit area.



According to Alan Rothenberg, Rider's Hobby Shop and the Ford Amateur Astronomical Society (FAAS) are having another Swap Shop on February 3rd, in Livonia. It's being held at the same place it was last year. More details later.

November's Discussion/Computer Group had to meet at Gary Ross' house because the Gathen facility wasn't available. Gary Gathen was out of town, as mentioned at the last MCCC meeting. With five attending this time, the subject matter rambled all over the place. We welcomed Jon Blum to his first meeting with our group. The Abacus was briefly discussed, as well as Intelligent Design. Dave D'Onofrio's talk, at the last meeting, was hailed as excellent. We touched on a 29 gear calculator that was unearthed back in 1990 and revealed to be over 2,000 years old. It was designed to give Lunar positions during the year. Other features are still being found. Manned and unmanned space exploration got another round of discussion along with an observatory on the Moon. The Texas Star Party was brought up by Jim Shedlowski. He's looking for more people that are thinking about heading there. Finally, the

Astronomy Picture of the Day archive:
<http://antwrp.gsfc.nasa.gov/apod/archivepix.html>

Our speed through space:
<http://dingo.care-mail.com/cards/flash/5409/galaxy.swf>



Space Weather for Air Travelers

By Diane K. Fisher

At a time when much of the airline industry is struggling, one type of air travel is doing remarkably well: polar flights. In 1999, United Airlines made just twelve trips over the Arctic. By 2005, the number of flights had grown to 1,402. Other airlines report similar growth.

The reason for the increase is commerce. Business is booming along Asia's Pacific Rim, and business travel is booming with it. On our spherical Earth, the shortest distance from Chicago to Beijing or New York to Tokyo is over the North Pole. Suddenly, business travelers are spending a lot of time in the Arctic.

With these new routes, however, comes a new concern: space weather.

"Solar storms have a big effect on polar regions of our planet," explains Steve Hill of NOAA's Space Weather Prediction Center in Boulder, Colorado. Everyone knows about the Northern Lights, but there's more to it than that: "When airplanes fly over the poles during solar storms, they can experience radio blackouts, navigation errors and computer reboots—all caused by space radiation."

In 2005, United Airlines reported dozens of flights diverted from polar routes by nasty space weather. Delays ranged from 8 minutes to nearly 4 hours, and each unplanned detour burned expensive fuel. Money isn't the only concern: Pilots and flight attendants who fly too often over the poles could absorb more radiation than is healthy. "This is an area of active research—figuring out how much exposure is safe for flight crews," says Hill. "Clearly, less is better."

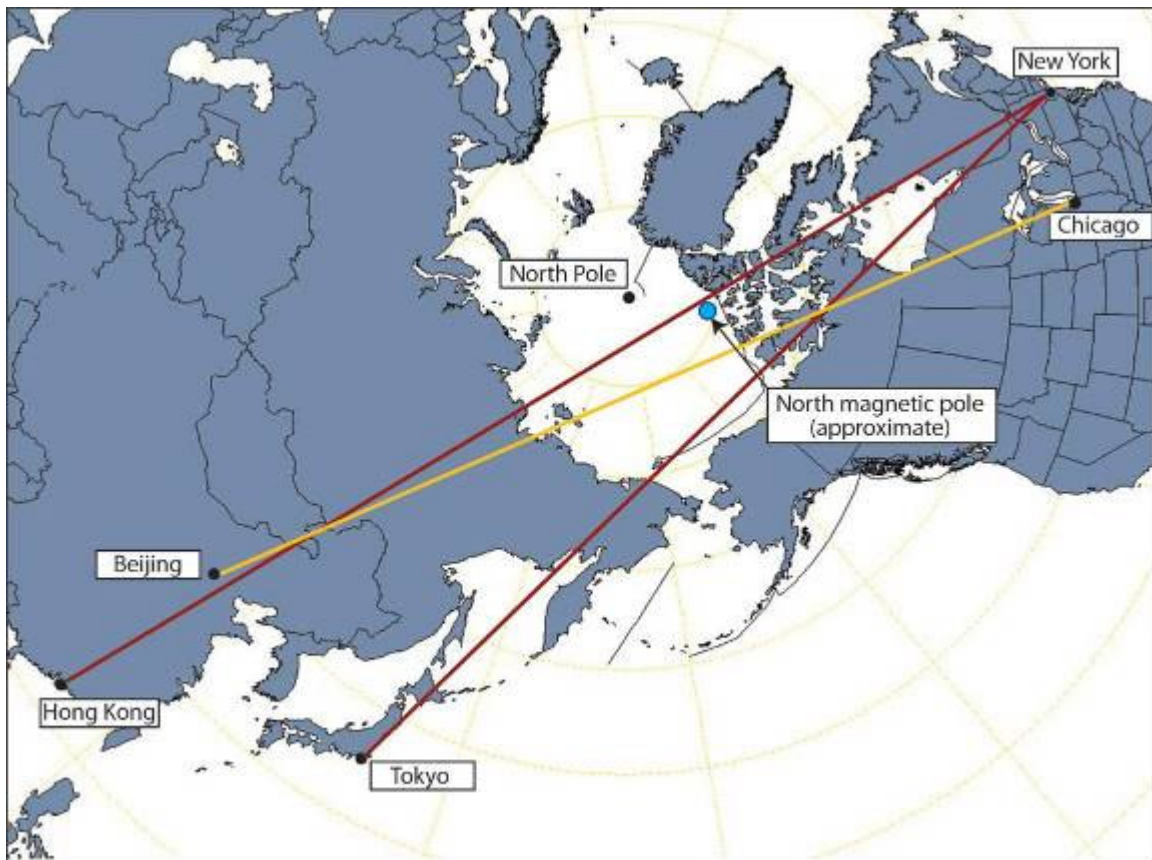
To help airlines avoid bad space weather, NOAA has begun equipping its GOES weather satellites with improved instruments to monitor the Sun. Recent additions to the fleet, GOES 12 and 13, carry X-ray telescopes that take spectacular pictures of sunspots, solar flares, and coronal holes spewing streams of solar wind in our direction. Other GOES sensors detect solar protons swarming around our planet, raising alarms when radiation levels become dangerous.

"Our next-generation satellite will be even better," says Hill. Slated for launch in 2014, GOES-R will be able to photograph the Sun through several different X-ray and ultra-violet filters. Each filter reveals a somewhat different layer of the Sun's explosive atmosphere—a boon to forecasters. Also, advanced sensors will alert ground controllers to a variety of dangerous particles near Earth, including solar protons, heavy ions and galactic cosmic rays.

“GOES-R should substantially improve our space weather forecasts,” says Hill. That means friendlier skies on your future trips to Tokyo.

For the latest space weather report, visit the website of the Space Weather Prediction Center at <http://www.sec.noaa.gov/> . For more about the GOES-R series spacecraft, see http://goespoes.gsfc.nasa.gov/goes/spacecraft/r_spacecraft.html . For help in explaining geostationary orbits to kids—or anyone else—visit The Space Place at http://spaceplace.nasa.gov/en/kids/goes/goes_poes_orbits.shtml .

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The shortest airline routes from the Eastern U.S. to popular destinations in Asia go very near the magnetic North Pole, where space weather is of greatest concern.