



The Warren Astronomical Society Paper

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Volume 40, Number 2 //

2008 WAS OFFICERS

\\ February, 2008

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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 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.

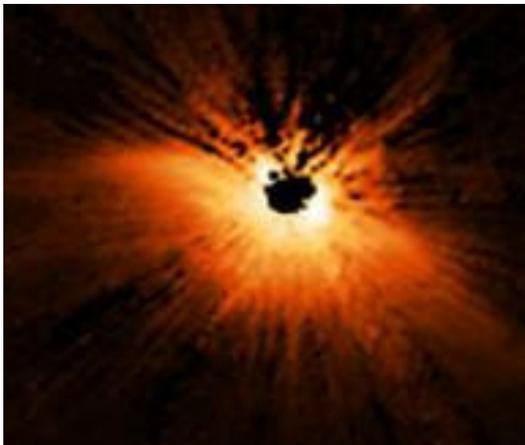
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Astro Chatter by Larry Kalinowski



Like clouds in the daytime sky, dust clouds in the nighttime sky take on shapes that humans like to compare to common shapes with which we are familiar. This dust cloud has been dubbed “The

Moth” by astronomers. The photo was taken by the Hubble telescope with its near Infra-red



camera. Normally, dust clouds around stars are symmetrical but this one has a large dark area on one side and may be the result of its

approach to another darker cloud. The gas cloud surrounds HD 61005.

The picture of the Sun with the surrounding halos, is quoted as being the best picture yet, of the so-called Kern arc. The arc, a full 360 degree halo, which includes the Circumzenithal arc, is located in the center of the upper middle portion of the picture. It was taken by a Finlander named Marko Mikkila. More than one picture was stacked to bring out the halo to



give it more contrast. It can best be viewed on the Internet at www.spaceweather.com. One of the best placed Lunar Eclipses occurs on the 20th day of the month with totality beginning at 10:00PM EST. The entire eclipse

of his plans for 2008. He asked the membership to let friends and family know that WAS members can do presentations for school groups.

Gary reminded members that we need them to give presentations. He will notify Marty of technical requirements for presentations so that Marty can make arrangements in advance. He read the current schedule of presentations, and noted gaps in this year's schedule. Members may, by prior arrangement, bring videos of general interest if they are not willing to present themselves.

Marty reviewed current equipment checkout policies. He noted that the next open house would be January 12. He announced that Cranbrook is hosting an observing party for the lunar eclipse on February 20th, from roughly 8-1pm. They would like to get as many telescopes set up as possible.

Steve reminded members who have not yet picked up or paid for their WAS calendars to do so.

Interest groups: Solar - Marty announced that a new solar cycle seems to have started, as a sunspot flipped polarity.

Computer - Larry K. recapped the awards that were given at the banquet.

Hands-on - Bob gave an account of his and Ken's presentations at the Wolcott Mill Heritage Festival in December. They were very well-received and we will be invited back.

Directorships: Larry P. announced his plans to revamp the layout of the WASP, among other projects that he will discuss with the board first.

John is putting together a new volunteer list and a list of organizations we have assisted in the past.

General meeting: Larry K. suggested that we begin preparations for a WAS almanac to commemorate our 50th anniversary in 2011. It will come sooner than we think!

Bob asked everyone sharing a news story to limit themselves to brief summaries of the stories.

Presentation:

Gary read excerpts from Freeman J. Dyson's New York Review of Books essay on the excellent Timothy Ferris memoir/paean to amateur astronomy 'Seeing in the Dark,' introducing the PBS television documentary of the same name.

34 people attended the meeting.

The meeting adjourned at 9:58 PM.

Respectfully submitted,
Jonathan –

**Warren Astronomical Society
Minutes of General Meeting
January 17, 2007
Macomb**

The meeting was called to order at 7:34 pm.

Vistors: Brian, who was a member 10-12 years ago, and his friend John, who was looking to buy a telescope.

Officers' reports: Bob opened the meeting.

Marty reported on the January 12 open house: a group of Boy Scouts were in attendance. He gave a report on the scope and status of renovations at Stargate: he will be sorting, organizing, taking inventory of and restoring our collection of telescopes and accessories, raising the dome, and rebuilding the roof. The observatory is currently full of building supplies, but we need a stretch of tolerable weather to allow work to proceed. Marty again announced the public event at Cranbrook for the lunar eclipse on February 20th - volunteers are needed. The next open house will be February 16.

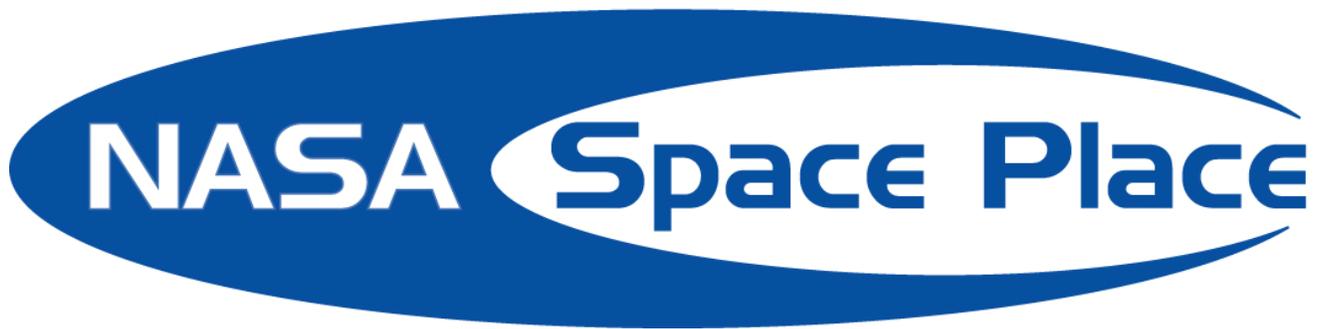
Gary noted that presentation gaps in June and July must be filled and implored presenters who cannot make the meeting to telephone as far in advance as possible so that other arrangements may be made. He will be pending requests for presentations through postal mail to our non-electronically connected members.

Steve reported the club's treasury at \$5486.89. He reminded members who have not yet picked up or paid for their WAS calendars to do so.
Interest groups:

Computer - Larry K. recapitulated topics of discussion at the last meeting: the construction of the Yerkes refractor, the asteroid that briefly had a high risk of collision with Mars, and the characteristics of daylight at various longitudes. Gary Ross reported seeing 2 stars within the Trapezium.

Gary Gathen reported that his wife Patricia hung the Distinguished Service plaque she was awarded at the club banquet above the bar where refreshments are served for computer/discussion group meetings. She was surprised and delighted at the honor.

Library - Steve announced that the Timothy Ferris memoir 'Seeing in the Dark' was donated to the library. The book was adapted into the documentary that was screened at the January 7 meeting.



No Mars Rock Unturned

by Patrick L. Barry

Imagine someday taking a driving tour of the surface of Mars. You trail-blaze across a dusty valley floor, looking in amazement at the rocky, orange-brown hillsides and mountains all around. With each passing meter, you spy bizarre-looking rocks that no human has ever seen, and may never see again. Are they meteorites or bits of Martian crust? They beg to be photographed.

But on this tour, you can't whip out your camera and take on-the-spot close-ups of an especially interesting-looking rock. You have to wait for orders from headquarters back on Earth, and those orders won't arrive until tomorrow. By then, you probably will have passed the rock by. How frustrating!

That's essentially the predicament of the Spirit and Opportunity rovers, which are currently in their fourth year of exploring Mars. Mission scientists must wait overnight for the day's data to download from the rovers, and the rovers can't take high-res pictures of interesting rocks without explicit instructions to do so.

However, artificial intelligence software developed at JPL could soon turn the rovers into more-autonomous shutterbugs.

This software, called Autonomous Exploration for Gathering Increased Science (AEGIS), would search for interesting or unusual rocks using the rovers' low-resolution, black-and-white navigational cameras. Then, without waiting for instructions from Earth, AEGIS could direct the rovers' high-resolution cameras, spectrometers, and thermal imagers to gather data about the rocks of interest.

"Using AEGIS, the rovers could get science data that they would otherwise miss," says Rebecca Castaño, leader of the AEGIS project at JPL. The software builds on artificial intelligence technologies pioneered by NASA's Earth Observing-1 satellite (EO-1), one of a series of technology-testbed satellites developed by NASA's New Millennium Program.

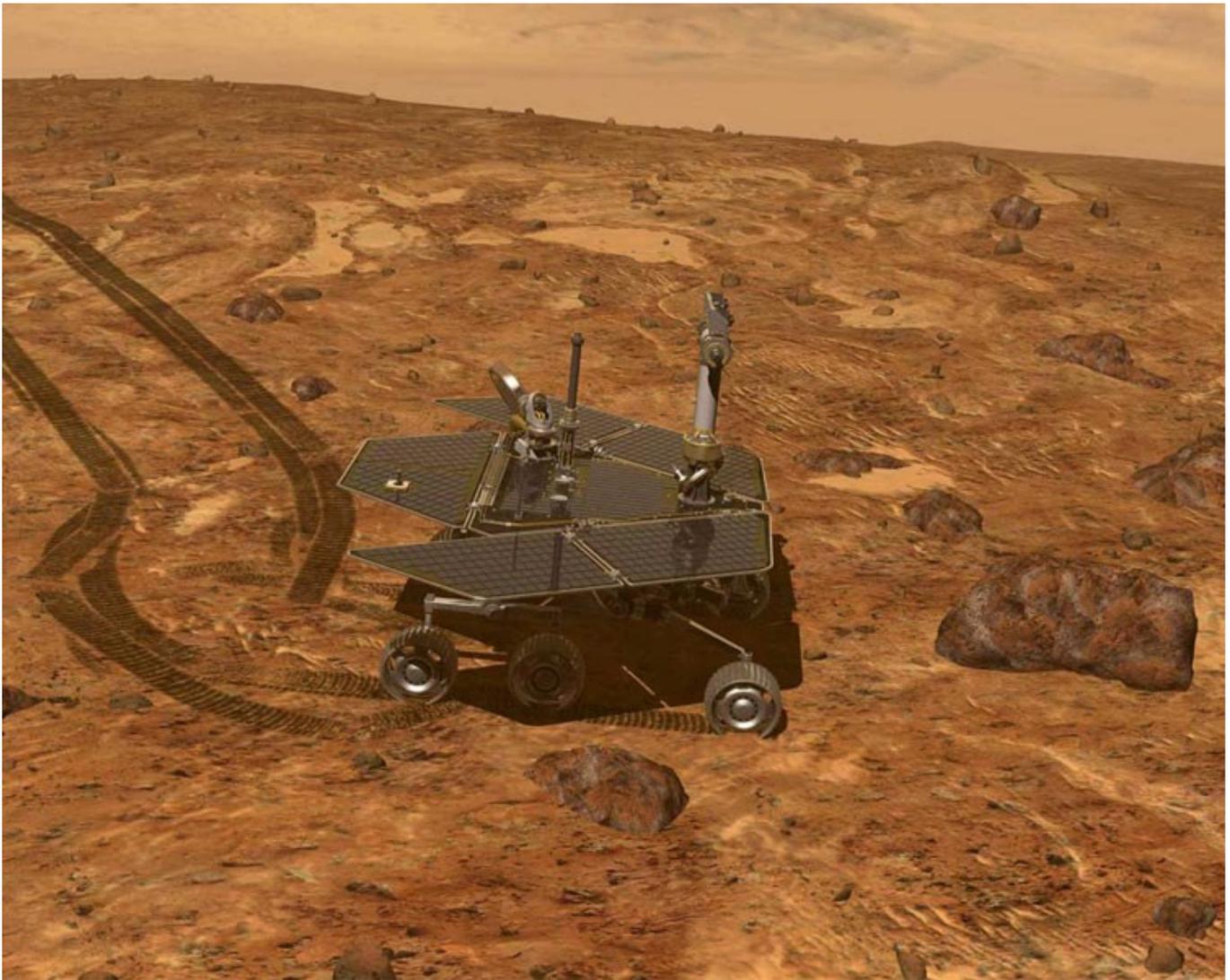
AEGIS identifies a rock as being interesting in one of two ways. Mission scientists can program AEGIS to look for rocks with certain traits, such as smoothness or roughness, bright or dark surfaces, or shapes that are rounded or flat.

In addition, AEGIS can single out rocks simply because they look unusual, which often means the rocks could tell scientists something new about Mars's present and past.

The software has been thoroughly tested, Castaño says, and now it must be integrated and tested with other flight software, then uploaded to the rovers on Mars. Once installed, she hopes, Spirit and Opportunity will leave no good Mars rock unturned.

Check out other ways that the Mars Rovers have been upgraded with artificial intelligence software at <http://nmp.nasa.gov/TECHNOLOGY/infusion.html#sciencecraft>.

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



Are these rocks of any scientific interest? With the new AEGIS software, the Mars Rovers, Spirit and Opportunity, will be able to judge for themselves whether a scene is worth a high-resolution image. (Artist's rendering.)