

THE PRAIRIE ASTRONOMER

The Official Newsletter Of The Prairie Astronomy Club, Inc.

December 2006

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Internet Addresses

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 NSP E-Mail: info@nebraskastarparty.org
 OAS: www.OmahaAstro.com
 Hyde Observatory www.hydeobservatory.info
 NEB-STAR www.neb-star.org

Club Events

Club Star Party

Friday, December 22, 2006

PAC Club Meeting

Tuesday, December 26, 2006

7:30pm @ Hyde Obsv.

Program: "Astronaut" video.

Club Star Party

Friday, January 19, 2007

PAC Club Meeting

Tuesday, January 30, 2007

7:30pm @ Hyde Obsv.

Program: Learn How to Use Your Telescope

Program

"Astronaut" Video

The PAC program for this month will be the show "Astronaut" by the National Space Centre of England. This is a full-dome show, shown in video. It has some nice examples of British humor.

PAC-LIST: You may subscribe to the PAC listserv by sending an e-mail message to: imailsrv@prairieastronomyclub.org. In the body of the message, write "Subscribe PAC-List your-email-address@your-domain.com"

For example:
Subscribe pac-list stargazer@myISP.com

To post messages to the list, send to the address pac-list@prairieastronomyclub.org

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The Prairie Astronomer is published monthly by the Prairie Astronomy Club, Inc. Membership expiration date is listed on the mailing label. Membership dues are: **Regular \$30/yr, Family \$35/yr.** Address all new memberships and renewals to: **The Prairie Astronomy Club, Inc., PO Box 5585, Lincoln, NE 68505-0585.** For other club information, please contact one of the club officers listed on the last page of this newsletter. Newsletter comments and articles should be submitted to: **Mark Dahmke, PO Box 80266, Lincoln, NE 68501 or mdahmke@4w.com,** no less than ten days prior to the club meeting. The Prairie Astronomy Club meets the last Tuesday of each month at Hyde Memorial Observatory in Lincoln, NE.

Secretary's Report

Ron Veys called the meeting to order. There were three visitors. Ron discussed recent and upcoming club events:

- Hyde Observatory had a special opening on November 8th for the transit of Mercury. It was a big success with about 250 – 300 people attending.
- Dave Churilla, Bob Kacvinsky, and Bob Leavitt set up telescopes at the Brownell Elementary School community night on November 16.
- Dave Knisely, John Lammers, and Lee Taylor participated in the annual Halloween event at Homestead National Monument on Saturday, October 28. A large crowd was on hand and the club received a donation for its efforts.
- The next club star party will be held Friday, December 22 at the farm.
- The next club meeting will be Tuesday, December 26.
- Hyde Observatory is open from 7:00 – 10:00 pm on Saturdays (winter hours). There will be a training session for new volunteers at Hyde in February. The date and time will be announced later.

Treasurer's report: Lee Thomas reported the following account balances:

CD-1 16,400.58
CD-2 3,628.13
CD-3 5000.00
Hyde Observatory Checking 0.00
Hyde Observatory Savings 0.00
PAC Checking 1,822.13
PAC Savings 8,943.65
Total 35,794.49

Lee Thomas is taking orders for RASC handbooks (\$18.95) and Ottewell calendars (\$22.75). We must order 5 of each to receive the discount price. A notice will be placed on the PAC list.

Jack Dunn asked that club members send him any ideas they may have for PAC programs in 2007.

Harlan Franey recently donated a 90mm Meade refractor and a Japanese 2 1/4 inch refractor to PAC. He also donated a box of eyepieces, an Autostar, and some other gear with the scopes. Our thanks go out to Harlan for his generous donation.

The club's telescope loan program and the storage of telescopes at Hyde were briefly discussed. The PAC board will discuss these topics at a future board meeting.

Ron reviewed upcoming observing highlights for the month of December.

The meeting was adjourned to the program. Eric Balcom discussed plans for next year's NSP along with ideas for relocating the star party in future years.

Submitted by,
Bob Leavitt

Club Telescopes – Checkout Policy

To check out one of the club telescopes, contact **Brian Sivill** or nanoamps@windstream.net. If you keep a scope for more than a week, please check in with Brian once a week, to verify the location of the telescope and how long you plan to use it. The checkout time limit will be two weeks, but can be extended if no one else has requested use of a club scope.

Hyde Observatory Volunteer Schedule

Date	Team Leader	Operators		Supervisor	Events
12/23/2006	Jeff King	Dave Brokofsky	Steve Lloyd	Dave Knisely	
12/30/2006	Dave Hamilton	Mitch Paine	Bill Wells	Dave Knisely	
1/06/2007	Dave Brokofsky	Dave Churilla	Joey Churilla		
1/13/2007	Delzell, Dan	Hamilton, Dave	Jeff King	Steve Lloyd	
1/20/2007	Bob Kacvinski	Jim Kvasnicka	Bob Leavitt	Jack Dunn	
1/27/2007	Steve Lloyd	Josh Machacek	Mitch Paine	Dave Brokofsky	
Summer Hours: April through September (Sundown to 11:00 PM)					
Winter Hours: October through March (7:00 PM to 10:00 PM)					

Geologists Finding a Different Mars Underneath

Mars is showing scientists its older, craggier face buried beneath the surface, thanks to a pioneering sounding radar co-sponsored by NASA aboard the European Space Agency's Mars Express orbiter.

Observations by the first project to explore a planet by sounding radar strongly suggest that ancient impact craters lie buried beneath the smooth, low plains of Mars' northern hemisphere. The technique uses echoes of waves that have penetrated below the surface.

"It's almost like having X-ray vision," said Dr. Thomas R. Watters of the National Air and Space Museum's Center for Earth and Planetary Studies, Washington. "Besides finding previously unknown impact basins, we've also confirmed that some of the subtle topographic depressions mapped previously in the lowlands are related to impact features."

Studies of how Mars evolved aid understanding of early Earth. Some signs of the forces at work a few billion years ago are more evident on Mars because, on Earth, many of them have been obliterated during Earth's more active resurfacing by tectonic activity.

Watters and nine co-authors report the findings in the Dec. 14, 2006 issue of the journal Nature.

The researchers used the orbiter's Mars Advanced Radar for Subsurface and Ionospheric Sounding, which was provided to the European Mars mission by NASA and the Italian Space Agency. The instrument transmits radio waves that pass through the Martian surface and bounce off features in the subsurface with electrical properties that contrast with those of materials that buried them.

The findings bring planetary scientists closer to understanding one of the most enduring mysteries about the

geologic evolution of the planet. In contrast to Earth, Mars shows a striking difference between its northern and southern hemispheres. Almost the entire southern hemisphere has rough, heavily cratered highlands, while most of the northern hemisphere is smoother and lower in elevation.

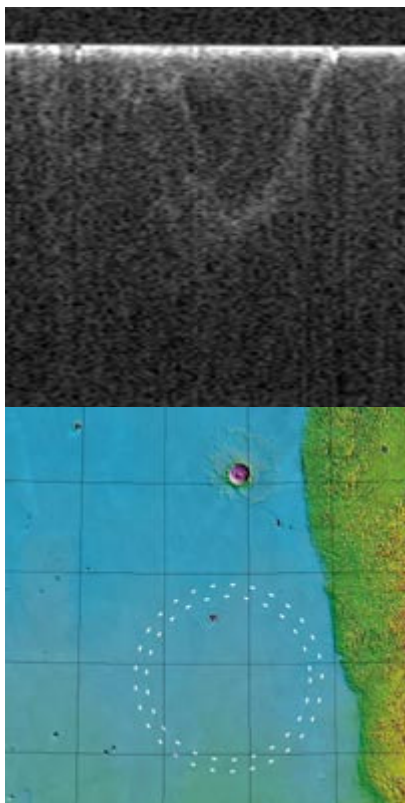
Since the impacts that cause craters can happen anywhere on a planet, the areas with fewer craters are generally interpreted as younger surfaces where geological processes have erased the impact scars. The abundance of buried craters that the radar has detected beneath Mars' smooth northern plains means the underlying crust of the northern hemisphere is extremely old, "perhaps as ancient as the heavily cratered highland crust in the southern hemisphere."

Learning about the ancient lowland crust has been challenging because that crust was buried first by vast amounts of volcanic lava and then by sediments carried by episodic flood waters and wind.

Co-authors are Carl J. Leuschen, Johns Hopkins University Applied Physics Laboratory, Laurel, Md.; Jeffrey J. Plaut, Ali Safaeinili and Anton B. Ivanov of NASA's Jet Propulsion Laboratory, Pasadena, Calif.; Giovanni Picardi, "La Sapienza" University of Rome, Italy; Stephen M. Clifford, Lunar and Planetary Institute, Houston; William M. Farrell, NASA's Goddard Space Flight Center, Greenbelt, Md.; Roger J. Phillips, Washington University, St. Louis; and Ellen R. Stofan, Proxemy Research, Laytonsville, Md.

Additional information about the Mars Advanced Radar for Subsurface and Ionospheric Sounding is available at <http://www.marsis.com>. JPL, a division of the California Institute of Technology, Pasadena, manages NASA's roles in Mars Express for the NASA Science Mission Directorate, Washington.

The Center for Earth and Planetary Studies is the scientific research unit within the Collections and Research Department of the Smithsonian Institution's National Air and Space Museum. The Center's scientists perform original research and outreach activities on topics covering planetary science, terrestrial geophysics and the remote sensing of environmental change.



This image is a radargram presenting data collected by the Mars Advanced Radar for Subsurface and Ionospheric Sounding during the 1,886th orbit of the European Space Agency's Mars Express orbiter. It shows parabolic-shaped echoes from the rim walls of a buried impact basin.

In this image, parabolic echoes project to circular arcs on the surface and indicate the location of a 210-kilometer-diameter (130-mile-diameter) impact basin buried by young lava flows in the Amazonis Planitia region.

Events Calendar

January 2007						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1 	2 	3 	4 	5 	6 
	Sun: 07:50 - 17:09	Sun: 07:50 - 17:10	Sun: 07:50 - 17:11	Sun: 07:50 - 17:12	Sun: 07:50 - 17:13	Sun: 07:50 - 17:14 Moon close to Saturn; Hyde Observatory Open to the Public
7 	8 	9 	10 	11 	12 	13 
Sun: 07:50 - 17:15	Sun: 07:50 - 17:15 January Bootids	Sun: 07:50 - 17:17	Sun: 07:50 - 17:18	Sun: 07:50 - 17:19	Sun: 07:49 - 17:20	Sun: 07:49 - 17:21 Hyde Observatory Open to the Public
14 	15 	16 	17 	18 	19 	20 
Sun: 07:49 - 17:22	Sun: 07:48 - 17:23 Moon close to Jupiter	Sun: 07:48 - 17:24	Sun: 07:47 - 17:25	Sun: 07:47 - 17:26	Sun: 07:46 - 17:28 Club Star Party; Moon close to Mercury	Sun: 07:46 - 17:29 Hyde Observatory Open to the Public
21 	22 	23 	24 	25 	26 	27 
Sun: 07:45 - 17:30	Sun: 07:45 - 17:31	Sun: 07:44 - 17:32	Sun: 07:43 - 17:33	Sun: 07:42 - 17:35	Sun: 07:42 - 17:36	Sun: 07:41 - 17:37 Hyde Observatory Open to the Public
28 	29 	30 	31 			
Sun: 07:40 - 17:38	Sun: 07:39 - 17:40	Sun: 07:38 - 17:41 PAC Club Meeting; Orionids	Sun: 07:37 - 17:42			

Moon phase images by: Antônio Cidadão

**Directions to Olive Creek
Observing Site**

Shorter:

Take Hwy 77 South out of Lincoln until you get to the Crete corner (junction Hwy 77 and Hwy 33). Go West on Hwy 33 (toward Crete) until you get to SW 72 St. Turn Left (South) on SW 72 St. and go about 5 miles until you get to SW Panama Rd. Turn right (West) until you get to SW 100 St. (SW 100 St does NOT go through to Hwy 33). Turn Left (South) on SW 100 St and go about 1 to 1 1/2 miles until you see the sign and entrance to Olive Creek (this is the West side of the Park). It's on your left (East) side of the road.

More Black Top:

Take Hwy 77 South out of Lincoln until you get to the Crete corner (junction Hwy 77 and Hwy 33). Go West on Hwy 33 (toward Crete) until you get to about SW 114 St. - the first intersection after SW 100 St. (forgot to look at this street sign, sorry - you'll see a sign for Olive Creek though at this road- but don't count on anymore signs after that, I didn't see any). Turn Left (South) on SW 114 St and go about 5 miles or so until you get to SW Panama Rd (you'll see a church and small school on your right). Turn Left (East) and go about a mile to SW 100 St, then turn Right (South) and go 1 to 1 1/2 miles until you see the Olive Creek entrance and sign (on your left hand side of the road).

**OFFICERS
OF THE PRAIRIE ASTRONOMY CLUB**

PRESIDENT: Ron Veys
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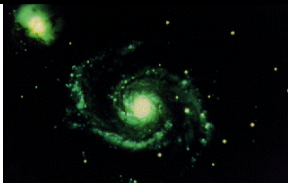
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**The Prairie Astronomer
c/o The Prairie Astronomy Club, Inc.
P.O. Box 5585
Lincoln, NE 68505-0585**

First Class Mail

**Next PAC Meeting
Dec. 26, 2006
7:30 PM
Hyde Observatory**

«TITLE» «FIRSTNAME» «MIDDLENAME» «LASTNAME» «RENEWALDATE»
«CAREOF»
«ADDRESS1»
«ADDRESS2»
«CITY», «STATE» «ZIP»