

THE PRAIRIE ASTRONOMER

The Official Newsletter Of The Prairie Astronomy Club, Inc.

May 2006

Volume 47 Issue #5

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Club Events

Club Star Party

Friday, May 26, 2006

PAC Club Meeting

Tuesday, May 30, 2006

Mahoney Star Party

Friday, June 16, 2006 Mahoney State Park

Club Star Party

Friday, June 23, 2006

PAC Club Meeting

Tuesday, June 27, 2006 7:30pm

Program

Guest speaker from Uzbekistan for May PAC meeting!

The May meeting of the Prairie Astronomy Club will feature a talk by Dr. Mansur Ibrahimov from the Ulugh Beg Astronomical Institute in Tashkent, Uzbekistan.

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

Mahoney Star Parties

June 16, July 14,
August 18, September 15.

Nebraska Star Party

July 23-28, 2006

PAC/OAS Banquet

Sunday October 15, 2006

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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

President Ron Veys called the meeting to order. There were 3 visitors. Ron discussed upcoming club events:

- The next club star party will be held April 28 at the farm.
- Beginning Astronomy Class: We're nearing the end of the class, with one more session tomorrow night. We have a total of 23 registered students. The class has gone well and the students have shown a lot of enthusiasm. We plan to follow up with students to keep them informed of upcoming club events.
- The UNL Student Observatory will be open May 5.
- Astronomy Day will be Saturday, May 6 from 9:30 am to 4:30 pm. Additional volunteers are needed to bring telescopes and staff the booths. Jack Dunn said that lunch will be provided to all volunteers.
- The First Mahoney Star Party is scheduled for May 19. This is a public outreach activity jointly sponsored by PAC and OAS. We set up telescopes near the golf driving range at Mahoney Park. These events are a lot of fun and we hope to see a lot of PAC'ers there. A state park entry permit is required to enter Mahoney Park. Additional MSP's are scheduled for June 16, July 14, August 18, and September 15.
- The next club meeting will be Tuesday, May 30.
- The City of Lincoln will rededicate Holmes Park on June 10 to commemorate the completion of the park renovation. This event, called Waterfest, will take place from 5 PM to 8 PM, followed by an observing session at Hyde.
- The Nebraska Star Party is scheduled for July 23 – 28.

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

Hyde checking balance - \$181.41
PAC checking balance - \$1,150.32
Hyde Savings balance - \$1,943.73
PAC Savings balance - \$11,637.91
CD 1 - \$16,400.58
CD 2 - \$3,628.13

Total - \$34,942.08

Ron commented that most of PAC's money came from the sale of the club's observing site in the late 1990's. Our intent is to save these funds for purchasing or leasing another observing site in the future. Interest from these accounts could be used for outreach activities and other club projects. The club operates each year on funds in the PAC checking account.

Ron reminded everyone that the PAC store is now open on cafepress.com. You can purchase t-shirts, hats, mugs, mouse pads, etc. with the PAC logo.

PAC star party waiver form: Last year PAC began holding star parties on private property. The landowner is potentially liable for property damage or injuries received by PAC members and guests while attending star parties. To address this situation, the club has prepared a waiver form for members to sign. Bob Leavitt

passed out copies of the waiver form at the meeting. We are asking all club members to sign the form and give it to Bob Leavitt. The form is also available on the PAC web site.

Plans for the annual banquet were discussed. Due to rising costs and a desire to have the banquet be self-supporting, the board decided to seek another location for the event. Mark Dahmke came up with 3 alternatives – the main lodge at Mahoney Park, Valentino’s buffet in Omaha, and the SAC Museum. The SAC Museum is offering their facilities for free if we have the banquet on a Sunday night. Mark has been working with OAS and they also favor this location. The club voted to have the banquet at the SAC Museum.

Hyde Observatory is open Saturdays from sundown to 11:00 pm (summer hours). If you'd like to help at Hyde, contact volunteer coordinator Dave Churilla.

Ron reviewed upcoming observing highlights for the month of May.

The meeting was adjourned to the program. Masatoshi Shoji presented a program on Active Galactic Nuclei (Quasars). He discussed the polarization light from AGN and its use in estimating the innermost structure of AGN: NGC 4151.

Submitted by,
Bob Leavitt

Club Telescopes – Checkout Policy

To check out one of the club telescopes, contact Mark Dahmke (475-3150) or mdahmke@4w.com. If you keep a scope for more than a week, please check in with Mark 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
June					
6/3/2006	Bill Wells	Bob Leavitt	Jim Kvasnicka		
6/10/2006	Dan Delzell	Bob Kacvinsky	Joey Churilla	Dave Churilla	Waterfest-Solar viewing 5-7 PM
6/17/2006	Jeff King	Mitch Paine	Dave Brokofsky	Steve Lloyd	
6/24/2006	Dave Hamilton	Steve Lloyd	Josh Machacek	Dave Brokofsky	
July					
7/1/2006	Dan Delzell	Joey Churilla	Mitch Paine	Dave Churilla	
7/8/2006	Bob Leavitt	Jim Kvasnicka	Dave Hamilton		
7/15/2006	Jeff King	Bob Kacvinsky	Steve Lloyd	Dan Delzell	
7/22/2006	Bill Wells	Josh Machacek	Dave Brokofsky		
7/29/2006	Dave Churilla	Joey Churilla	Jim Kvasnicka		
Summer Hours: April through September (Sundown to 11:00 PM)					
Winter Hours: October through March (7:00 PM to 10:00 PM)					

Guest speaker from Uzbekistan for May PAC meeting

It seems like this is our season for guest speakers from far away places! After last month's talk by Masatoshi Shoji from Japan, this month we get a talk by Dr. Mansur Ibrahimov from the Ulugh Beg Astronomical Institute in Tashkent, Uzbekistan. People who attended Martin Gaskell's 2004 talk "Astronomy in the Steppes of Central Asia" will have seen photos of Mansur when he was serving as guide and translator during Martin's 2004 visit to Uzbekistan.

Mansur is an energetic Uzbek astronomer who speaks fluent English. The title of his talk is "Observing quasars and other things from Uzbekistan." He'll be talking in particular about the famed Mt. Maidanak Observatory where they have 2000 clear hours per year and a median seeing of an amazing 0.7 arcseconds! Since Mt. Maidanak is located in longitude between the major facilities in Chile, Hawaii, and the Canary Islands, Mt. Maidanak is a site of international importance for astronomy.

There has been astronomical research in Uzbekistan since at least the early 15th century when Uzbekistan was one of the world's greatest powers. The Ulugh Beg Astronomical Institute in Tashkent was founded only a few years after the University of Nebraska.

Beginning Astronomy Class—Bob Leavitt

Twenty-three enthusiastic students signed up for PAC's Beginning Astronomy Class, which was held in April 2006. We had a mixture of adults, parents with children, and a couple of kids who took the class on their own. The class met on four Wednesday evenings from 7:00 – 9:30 PM.

Classroom sessions covered many phases of astronomy, including planets, the sun, asteroids, comets, stars, deep sky objects, telescope design, constellations, and finding your way around the night sky. Observing sessions taught the basics of sky charts, telescope setup, finderscope alignment, and finding objects using the scopes.

We were lucky in that observing conditions were fairly good on each of the nights, though we had to contend with light pollution and the moon on two of the nights. A special solar observing session was held at 5:00 pm on the 3rd evening. Due to high winds and clouds we decided to repeat the session on the last evening. On the last evening Dave and Joey Churilla set up their web cam to do some imaging of Saturn. This was well received by the class and the images turned out nicely.



Many students commented that they had a good time and learned a lot in the class. Those of us teaching the class had a lot of fun as well. The instructors included Dave Churilla, Joey Churilla, Dan Delzell, Theresa Dolezal, Jeff King, Dave Knisely, Jim Kvasnicka, Bob Kacvinsky, Bob Leavitt, Steve Lloyd, Josh Machacek, Brian Sivill, Lee Taylor, and Ron Veys.

See the article on the PAC website for additional photos.

Astronomy Day – Bob Leavitt

Astronomy Day 2006 was a success! Over 670 visitors came to Morrill Hall on May 6th to see the many astronomy and physics demonstrations. Here are some photos taken by Bob Leavitt, Jack Dunn, Lee Taylor, and Jim Atkins.



Visitors line up at the PAC table



Bob Kacvinsky with his 12" dob from Hardin Optical



Mirror grinding and telescope making - Dave Brokofsky and Martin Gaskell



Mars computer games and images. On the left at back are Josh Machacek, Lee Taylor, and Dave Knisely. On the right is Lee Thomas.

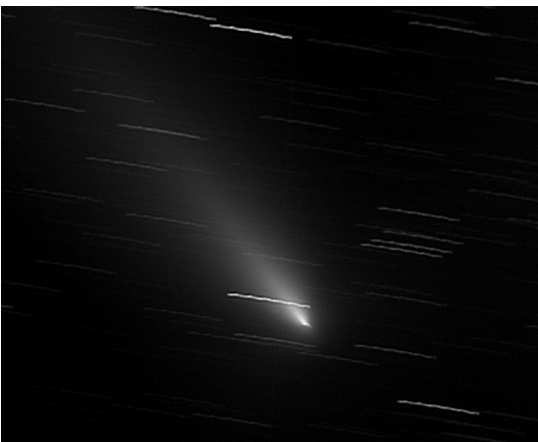


Steve Lloyd discusses PlanetQuest (the search for extrasolar planets) with several visitors



Erik Hubl talks with visitors about saving the night sky

Comet P73 Schwassmann-Wachmann 3



This photo of P73 B with jet was taken by club member Rick Johnson from his home in Minnesota.

6" f/4, 15 minutes, 150% enlargement, ST-7.

NASA's New Mars Orbiter Returns Test Images

The first test images of Mars from NASA's newest spacecraft provide a tantalizing preview of what the orbiter will reveal when its main science mission begins next fall.

Three cameras on NASA's Mars Reconnaissance Orbiter were pointed at Mars at 8:36 p.m. PST Thursday, while the spacecraft collected 40 minutes of engineering test data. The cameras are the High Resolution Imaging Science Experiment, the Context Camera and the Mars Color Imager.

"These high-resolution images of Mars are thrilling, and unique given the early morning time-of-day. The final orbit of Mars Reconnaissance Orbiter will be over Mars in the mid-afternoon, like Mars Global Surveyor and Mars Odyssey," said Alfred McEwen, University of Arizona, Tucson, principal investigator for the orbiter's High Resolution Imaging Science Experiment camera.

"These images provide the first opportunity to test camera settings and the spacecraft's ability to point the camera with Mars filling the instruments' field of view," said Steve Saunders, the mission's program scientist at NASA Headquarters. "The information learned will be used to prepare for the primary mission next fall." The main purpose of these images is to enable the camera team to develop calibration and image-processing procedures such as the precise corrections needed for color imaging and for high-resolution surface measurements from stereo pairs of images.

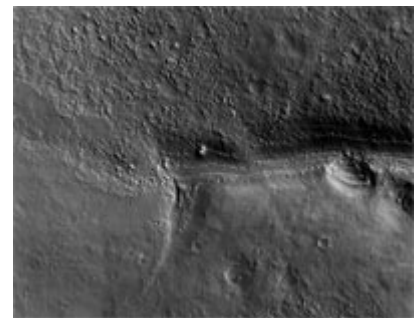
To get desired groundspeeds and lighting conditions for the test images, researchers programmed the cameras to shoot while the spacecraft was flying about 1,547 miles or more above Mars' surface, about nine times the range planned for the orbiter's primary science mission. Even so, the highest resolution of about 8 feet per pixel - an object 8 feet in diameter would appear as a dot -- is comparable to some of the best resolution previously achieved from Mars orbit.

Further processing of the images during the next week or two is expected to combine narrow swaths into broader views and show color in some portions.

The Mars Reconnaissance Orbiter has been flying in elongated orbits around Mars since it entered orbit on March 10. Every 35 hours, it has swung from about 27,000 miles away from the planet to within about 264 miles of Mars' surface.

Mission operations teams at NASA's Jet Propulsion Laboratory, Pasadena, Calif, and at Lockheed Martin Space Systems, Denver, continue preparing for aerobraking. That process will use about 550 careful dips into the atmosphere during the next seven months to shrink the orbit to a near-circular shape less than 200 miles above the ground.

More than 25 gigabits of imaging data, enough to nearly fill five CD-ROMs, were received through NASA's Deep Space Network station at Canberra, Australia, and sent to JPL. They were made available to the camera teams at the University of Arizona Lunar and Planetary Laboratory and Malin Space Science Systems, San Diego, Calif.



Detail of First Mars Image from Newly Arrived Camera - this image is a close up of the area in the white box in the above image.

Image Credit: NASA/JPL-Caltech/University of Arizona

Events Calendar

June 2006						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1 	2 	3 
				Sun: 17:57 - 08:51	Sun: 17:56 - 08:52	Sun: 17:56 - 08:52 Hyde Observatory Open to the Public
4 	5 	6 	7 	8 	9 	10 
Sun: 17:56 - 08:53	Sun: 17:55 - 08:54	Sun: 17:55 - 08:54	Sun: 17:55 - 08:55	Sun: 17:55 - 08:56	Sun: 17:54 - 08:56	Sun: 17:54 - 08:57 Waterfest - Park Rededication; Hyde Observatory Open to the Public
			Arietids Meteor Max			
11 	12 	13 	14 	15 	16 	17 
Sun: 17:54 - 08:57	Sun: 17:54 - 08:58	Sun: 17:54 - 08:58	Sun: 17:54 - 08:59	Sun: 17:54 - 08:59	Sun: 17:54 - 08:59	Sun: 17:54 - 09:00 Hyde Observatory Open to the Public
			Mercury -half phase		Mahoney Star Party	
18 	19 	20 	21 	22 	23 	24 
Sun: 17:54 - 09:00	Sun: 17:54 - 09:00	Sun: 17:55 - 09:01	Sun: 17:55 - 09:01	Sun: 17:55 - 09:01	Sun: 17:55 - 09:01	Sun: 17:56 - 09:01 Hyde Observatory Open to the Public
Mars close to Saturn			Summer Solstice		Club Star Party; Moon close to Venus	
25 	26 	27 	28 	29 	30 	
Sun: 17:56 - 09:01	Sun: 17:56 - 09:02	Sun: 17:57 - 09:02	Sun: 17:57 - 09:02	Sun: 17:58 - 09:02	Sun: 17:58 - 09:01	
		PAC Club Meeting; Moon close to Saturn				

Moon phase images by: António 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**

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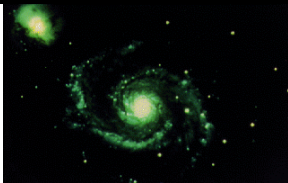
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**The Prairie Astronomer
c/o The Prairie Astronomy Club, Inc.
P.O. Box 5585
Lincoln, NE 68505-0585**

First Class Mail

**Next PAC Meeting
May 30, 2006
7:30 PM
Hyde Observatory**

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