

THE PRAIRIE ASTRONOMER

The Official Newsletter Of The Prairie Astronomy Club, Inc.

July 2005

Volume 46 Issue #7

Internet Addresses

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 OAS Web Page: www.OmahaAstro.com
 Hyde Observatory www.hydeobservatory.info
 NEB-STAR www.neb-star.org

Program

Hubble Space Telescope: 15 Years of Service

Jack Dunn will present a DVD reviewing the Hubble Space Telescope's contributions to our understanding of the lives of stars. This DVD was produced for the European Space Agency which partners with the Space Telescope Institute on many projects, and provides a different perspective on HST than other NASA videos. Segments include: The Lives of Stars, Cosmic Collisions, Gravitational Illusions, Looking To the End of Time, and more.

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

Club Events

PAC Meeting 7:30pm
Program: NASA Hubble Videos
 Tuesday, July 26, 2005

Club Star Party
 Friday, August 05, 2005

Mahoney Star Party
 Friday, August 12, 2005

Nebraska Star Party
Valentine, NE
 July 31 – August 5, 2005

August PAC Meeting
 Tuesday, August 30, 2005
 Program: Josh Mahecek will report on the Nebraska Star Party.

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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 5 visitors. Ron discussed upcoming club events:

- The next club star party will be July 1 at Olive Creek. (It was subsequently determined that the correct date is July 8).
- The next club meeting will be July 26th.
- Dates for upcoming Mahoney Star Parties are July 8, August 12, and September 9.

The Omaha Astronomical Society has changed the date of their handicap accessible star party to July 8. The original date was June 10, which was clouded out.

NSP news: The dates for this years NSP are July 31st to August 5th. A show of hands indicated that quite a few club members are planning to attend.

Treasurer's report: Lee Thomas reported that there is \$395.41 in the main club account. The audit committee completed the annual audit. The books were found to be in order with no discrepancies.

Ron reported that the Astronomical Leagues national convention (ALCon 2005) is in Kansas City this year. The dates are August 12-13.

The City of Lincoln has awarded a contract to Olsen Associates for an outdoor lighting study.

Website: Mark Dahmke has completed a major upgrade to the PAC web site. Improvements include dynamic driven content, RSS feeds, and a new administrative interface. Mark is continuing to work on other enhancements.

Mark Dahmke has digitized the video of Rick's program on the history of PAC from the February PAC meeting, and produced a two-DVD set that includes Ricks talk plus Earl Moser's video clips. The DVDs are available through the club library, and if you want your own copies they're available for \$5 from Mark.

Hyde Observatory is on its summer hours sundown to 11:00 pm. If you'd like to help at Hyde, contact volunteer coordinator, Dave Churilla.

Astronomy class: The Beginning Astronomy Class took place on the evenings of June 8, 15, and 22 at Hyde. The class was a success and got very good reviews from the students. Bob Leavitt thanked the club members who helped develop and teach the class, and commended them for a job well done. The group is considering doing another class in the fall or spring.

Ron reviewed upcoming observing highlights for the month of July.

The meeting was adjourned to the program. Dave Knisely and Lee Taylor presented "Hyde's New Nexstar Telescope".

Submitted by,
Bob Leavitt

Hyde Observatory Volunteer Schedule

Date	Team Leader	Operators		Supervisor	Events
July					
7/23/05	Bob Leavitt	Lee Thomas	Dave Churilla	Martin Gaskell	
7/30/05	Dan Delzell	Jared Delzell	Erica Block	Martin Gaskell	
August					
8/6/05	Jeff King	Joey Churilla	Erica Block	Dave Churilla	
8/13/05	Bob Leavitt	Jim Kvasnicka	Dave Brokofsky	Martin Gaskell	
8/20/05	Dan Delzell	Jared Delzell	Josh Machacek	Jack Dunn	
8/27/05	Bill Wells	Bob Kacvinsky	Steve Lloyd	Dave Hamilton	
September					
9/3/05	Steve Lloyd	Jim Kvasnicka	Josh Machacek		
9/10/05	Jeff King	Bob Kacvinsky	Dave Brokofsky		
9/17/05	Bill Wells	Joey Churilla	Erica Block	Dave Churilla	
9/24/05	Brian Sivill	Bob Leavitt	Jaraed Delzell	Dave Hamilton	
Summer Hours: April through September (Sundown to 11:00 PM)					
Winter Hours: October through March (7:00 PM to 10:00 PM)					

Club Telescopes – Checkout Policy

Starting in June, when club members check out a club telescope, they will need to contact Mark Dahmke (475-3150) or mdahmke@4w.com once a week, to verify the location of the telescope and how long they 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.

Summer Star Party – Bob Leavitt

A small but enthusiastic group was on hand for the PAC star party on July 8th. Jim Kvasnicka, Bob Kacvinsky, Dave Churilla, Joey Churilla, and Bob Leavitt were joined by four visitors including Dan and Mary Kincheloe, Mike Smith, and Mike's wife. Dan and his daughter Mary were students in our recent Beginning Astronomy class, while Mike attended the last PAC meeting.

Summer star parties at Olive Creek can be a problem, with all the campers and fishermen in the area. So for the July star party we decided to try a different location. Relatives of Jim Kvasnicka own a farm southeast of Cortland where most of the old buildings have been torn down. Jim graciously allowed us to use this location for July star party. He even had the grass mowed and provided a nice spot for us to set up. This proved to be a very good location – far away from other farms in the area with skies that were quite dark.

The evening began with variable clouds and sub par transparency. But conditions gradually improved until we had fairly decent skies before calling it quits around 1:00 am. We treated our visitors (and ourselves) to a tour of many of the old favorites such as M13, M4, M5, M27, M8, M17, M6, M7, along with many other objects in the Milky Way region of the sky. Bob Kacvinsky's 12" Dob provided exceptional views of the Hercules Cluster (M13) and the Dumbell Nebula (M27). Jim Kvasnicka and the Churilla's brought their 10" Dobs, which provided great views of objects such as the Veil Nebula, M8 (Lagoon Nebula), and M17 (Swan Nebula). Bob Leavitt brought his 8" Schmidt along with a pair of 9x63 binoculars that were mounted on a tripod. It was interesting (especially for our visitors) to compare the view of objects in telescopes vs. binoculars.

Everyone had a great time as the hours quickly went by. Before we realized, it was going on 1:00 am and a few yawns could be heard as we decided it was probably time to pack it in. Dave Churilla mentioned that it was good to get out and do some observing under the stars after such a long time. Our visitors had a great time too. Dan Kincheloe sent the following message, "thanks to all at the party for making us feel welcome. We had a good time and would like to do it again. We learned so much in just a short time with all the help from the members present. A great bunch of friendly folks."



First picture: In front: Mary Kincheloe, Back row from left: Dave Churilla, Bob Kacvinsky, Joey Churilla, Mike Smith, Dan Kincheloe, Jim Kvasnicka

Second picture: From left: Dave Churilla, Bob Kacvinsky, Joey Churilla, Mike Smith, Dan Kincheloe, Mary Kincheloe, Jim Kvasnicka

NASA Scientist Finds World With Triple Sunsets

A NASA-funded astronomer has discovered a world where the sun sets over the horizon, followed by a second sun and then a third. The new planet, called HD 188753 Ab, is the first known to reside in a classic triple-star system.

"The sky view from this planet would be spectacular, with an occasional triple sunset," said Dr. Maciej Konacki (MATCH-ee Konn-ATZ-kee) of the California Institute of Technology, Pasadena, Calif., who found the planet using the Keck I telescope atop Mauna Kea mountain in Hawaii. "Before now, we had no clues about whether planets could form in such gravitationally complex systems."

The finding, reported in this week's issue of Nature, suggests that planets are more robust than previously believed.

"This is good news for planets," said Dr. Shri Kulkarni, who oversees Konacki's research at Caltech. "Planets may live in all sorts of interesting neighborhoods that, until now, have gone largely unexplored." Kulkarni is the interdisciplinary scientist for NASA's planned SIM PlanetQuest mission, which will search for signs of Earth-like worlds.

Systems with multiple stars are widespread throughout the universe, accounting for more than half of all stars. Our Sun's closest star, Alpha Centauri, is a member of a trio.

"Multiple-star systems have not been popular planet-hunting grounds," said Konacki. "They are difficult to

observe and were believed to be inhospitable to planets."

The new planet belongs to a common class of extrasolar planets called "hot Jupiters," which are gas giants that zip closely around their parent stars. In this case, the planet whips every 3.3 days around a star that is circled every 25.7 years by a pirouetting pair of stars locked in a 156-day orbit.

The circus-like trio of stars is a cramped bunch, fitting into the same amount of space as the distance between Saturn and our Sun. Such tight living quarters throw theories of hot Jupiter formation into question. Astronomers had thought that hot Jupiters formed far away from their parent stars, before migrating inward.

"In this close-knit system, there would be no room at the outskirts of the parent star system for a planet to grow," said Konacki.

Previously, astronomers had identified planets around about 20 binary stars and one set of triple stars. But the stars in those systems had a lot of space between them. Most multiple-star arrangements are crowded together and difficult to study.

Konacki overcame this challenge using a modified version of the radial velocity, or "wobble," planet-hunting technique. In the traditional wobble method, a planet's presence is inferred by the gravitational tug, or wobble, it induces in its parent star. The strategy works well for single stars or far-apart binary and triple stars, but could not be applied to close-star systems because the stars' light blends together.

By developing detailed models of close-star systems, Konacki was able to tease apart the tangled starlight. This allowed him to pinpoint, for the first time, the tug of a planet on a star snuggled next to other stars. Of 20 systems examined so far, HD 188753, located 149 light-years away, was the only one found to harbor a planet.

Hot Jupiters are believed to form out of thick disks, or "doughnuts," of material that swirl around the outer fringes of young stars. The disk material clumps together to form a solid core, then pulls gas onto it. Eventually, the gas giant drifts inward. The discovery of a world under three suns contradicts this scenario. HD 188753 would have sported a truncated disk in its youth, due to the disruptive presence of its stellar companions. That leaves no room for HD 188753's planet to form, and raises a host of new questions.

The masses of the three stars in HD 188753 system range from two-thirds to about the same mass as our Sun. The planet is slightly more massive than Jupiter.

For artist's concepts and other graphics, visit <http://planetquest.jpl.nasa.gov/> . For information about NASA and agency programs on the Web, visit <http://www.nasa.gov/home/index.html> .

August Star Chart



Events Calendar

August 2005						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1  Sun: 18:23 - 08:42	2  Sun: 18:24 - 08:41	3  Sun: 18:25 - 08:40	4  Sun: 18:26 - 08:39	5  Sun: 18:27 - 08:37	6  Sun: 18:28 - 08:36
					Club Star Party	Hyde Observatory open to the public
7  Sun: 18:29 - 08:35	8  Sun: 18:30 - 08:34	9  Sun: 18:31 - 08:32	10  Sun: 18:32 - 08:31	11  Sun: 18:33 - 08:30	12  Sun: 18:34 - 08:29	13  Sun: 18:35 - 08:27
				Northern Iota Aquariids	Mahoney Star Party	Perseids; Hyde Observatory open to the public
14  Sun: 18:36 - 08:26	15  Sun: 18:37 - 08:24	16  Sun: 18:38 - 08:23	17  Sun: 18:39 - 08:22	18  Sun: 18:40 - 08:20	19  Sun: 18:41 - 08:19	20  Sun: 18:42 - 08:17
				Mercury Close to Saturn		Hyde Observatory open to the public
21  Sun: 18:43 - 08:16	22  Sun: 18:44 - 08:14	23  Sun: 18:45 - 08:13	24  Sun: 18:46 - 08:11	25  Sun: 18:47 - 08:10	26  Sun: 18:48 - 08:08	27  Sun: 18:49 - 08:07
						Hyde Observatory open to the public
28  Sun: 18:50 - 08:05	29  Sun: 18:51 - 08:04	30  Sun: 18:52 - 08:02	31  Sun: 18:53 - 08:00			
		August PAC Meeting				

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).

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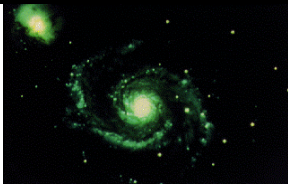
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First Class Mail

**Next PAC Meeting
July 26, 2005
7:30 PM
Hyde Observatory**

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«ADDRESS2»
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