



The Prairie Astronomer

June, 2011

Volume 52, Issue #6

The Official Newsletter of the Prairie Astronomy Club

June Program

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Featured Photo

“Swap Meet & BBQ”

By Bob Kacvinsky & Dan Delzell

This month (on June 28th) we'll have a short meeting at 7:30 PM followed by a BBQ and Swap Meet hosted by Bob Kacvinsky and Dan Delzell. The BBQ will feature Cajun Bob's smoked pulled pork sandwiches, Cole Slaw, Baked Beans, a cookie and lemonade (if you want something else to drink bring it) for only \$5 a head. We'll have tables set up so you can put out your Astronomy Equipment that you'd like to sell or trade. It should be a fun evening.

Newly released portraits show the International Space Station together with the space shuttle, the vehicle that helped build the complex during the last decade. The pictures are the first taken of a shuttle docked to the station from the perspective of a Russian Soyuz spacecraft. On May 23, the Soyuz was carrying Russian cosmonaut Dmitry Kondratyev, NASA astronaut Cady Coleman and European Space Agency astronaut Paolo Nespoli back to Earth. Once their vehicle was about 600 feet from the station, Mission Control Moscow, outside the Russian capital, commanded the orbiting laboratory to rotate 130 degrees. This move allowed Nespoli to capture digital photographs and high definition video of shuttle Endeavour docked to the station.

Credit: NASA



Meeting Minutes - Secretary Brett Boller

May 31st PAC Meeting

Dan Delzell Brought the meeting to order

Next meeting June 28th

June Meeting will be PAC Family Social .
\$5.00 a meal.

July Meeting

Astrophotography with John Willman and

Brett Boller

Star Parties

April 22nd 7 people

April 29th Cloudy

May 6th Cloudy

May 13th Lunar party cloudy

Upcoming Star Parties

May 27th

June 3rd

June 10th

Evening Planets

Saturn – The rings will be 7-8 degrees

Mercury around June 22nd

Midnight to Dawn Planets

Venus and Neptune

Morning Planets

Venus. Jupiter – 2hrs before sunrise, Mars and

Coma Berenices was the topic constellation.

Upcoming events

NSP July 31st-Aug5th

Early registration ends July 1st

Club Business

Student Membership

10 Dollars a year

Full PAC privileges

Acceptance into the Astronomical

League

Voting Privileges

Requirements:

Hyde Volunteer 3 times/Year
and/or 2 PAC events.

Student Benefits

Hours count toward

citizenship classes at LPS

Positive on resume

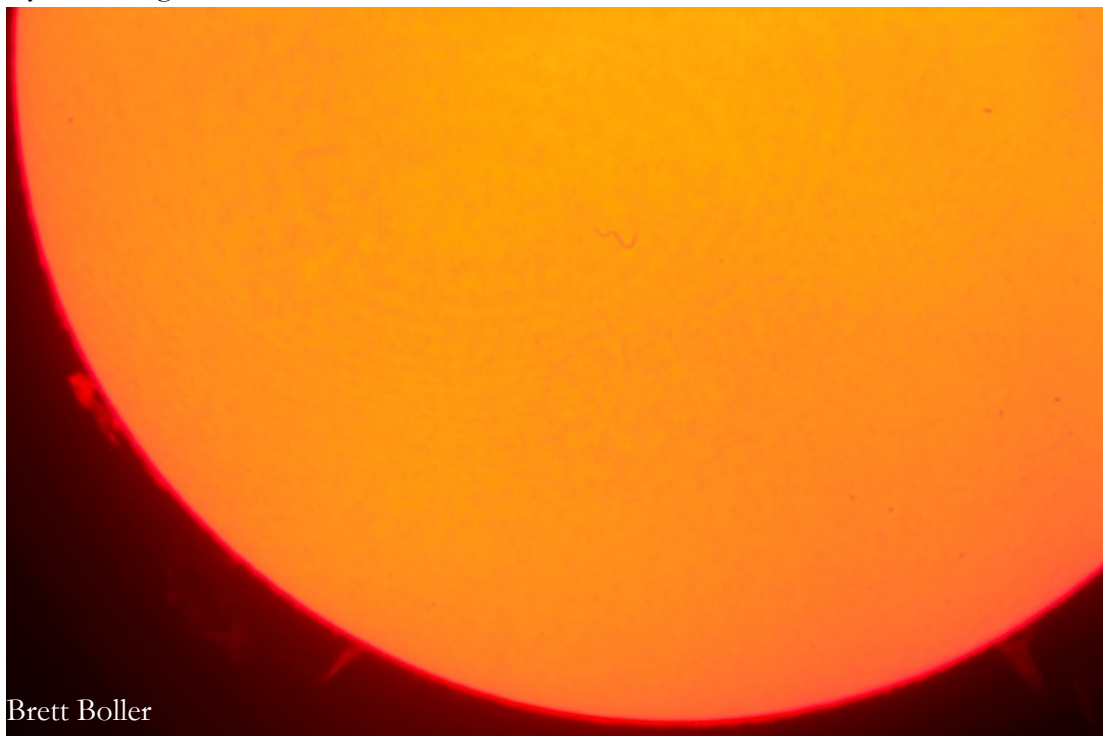
John Lammers motioned

Brian Sivill seconded it

Publicize for a month and vote in

June.

Dave Churilla presented an excellent demonstration of solar viewing before the meeting. We had more than five scopes setup in front of Hyde with a good size crowd. Good job Dave.



Brett Boller

Club Events

ON THE NET

Newsletter submission deadline, July 15, 2011

PAC Club Meeting:

Tuesday June 28, 2011 7:30pm @ Hyde Observatory
BBQ & Swap Meet

PAC Club Meeting:

Tuesday July 26, 2011 7:30pm @ Hyde Observatory
Program: Comet Hunting by Cal Beard

PAC Club Meeting:

Tuesday August 30, 2011 7:30pm @ Hyde Observatory
Program: Astrophotography by Brett Boller & John Willman

PAC:

www.prairieastronomyclub.org

PAC E-Mail:

info@prairieastronomyclub.org

NSP:

www.nebraskastarparty.org

NSP E-Mail:

info@nebraskastarparty.org

OAS

www.OmahaAstro.com

Hyde Observatory

www.hydeobservatory.info

Panhandle Astronomy Club

Panhandleastronomyclub.com

2011 PAC Star Party Dates

June	Jun 24th	Jul 1st
July	Jul 22nd	Jul 29th
August	Aug 26th	Sep 2nd
September	Sep 23rd	Sep 30th
October	Oct 21st	Oct 28th
November	Nov 18th	Nov 25th
December	Dec 16th	Dec 23rd

Lunar Party Dates:

Jul 8th
Aug 5th
Oct 7th
Nov 4th

Dates in **BOLD** are closest to the New Moon. Lunar Party dates are possible dates and not official.

Volunteer Activities

Hyde Observatory on Saturday nights

New Club Member's Instructional Class: To be determined.

Please see the website or email a club member for more information and as always additional volunteer events will occur when they are scheduled.

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

For example:

Subscribe pac-list me@myISP.com

To post messages to the list, send to the address

pac-list@prairieastronomyclub.org

PAC can also be found on Twitter and Facebook.

Buy club apparel through the club website. Shirts, hats, mugs, mouse pads and more.



July Observing: What to View--Jim Kvasnicka

This is a partial list of objects visible for the upcoming month.

Planets

Saturn: Shines at magnitude 0.9, the rings are tilted 8.0° from edge on.

Mercury: Look for it 45 minutes after sunset 5° above the WNW horizon.

Uranus/Neptune: In Pisces and Aquarius. Both rise before midnight.

Jupiter: Rises around 2 am the start of July and by midnight by the end of July.

Mars: Magnitude 1.4 in Taurus and it rises before dawn's light.

Venus: Rises an hour before the Sun at magnitude -3.9.

July Messier List

M3: Class VI globular cluster in Canes Venatici.

M4: Class IX globular cluster in Scorpius.

M5: Class V globular cluster in Serpens Caput. .

M53: Class V globular cluster in Coma Berenices.

M68: Class X globular cluster in Hydra.

M80: Class II globular cluster in Scorpius.

M83: Face on galaxy in Hydra.

Last Month: M58, M59, M60, M84, M86, M87, M88, M89, M90, M91, M98, M99, M100

Next Month: M6, M7, M8, M9, M10, M12, M19, M20, M21, M23, M62, M107

NGC and Other Deep Sky Objects

NGC 6229: Globular cluster in Hercules.

NGC 6369: Little Ghost Nebula, PN in Ophiuchus.

NGC 6503: Galaxy in Draco.

NGC 6543: Cat's Eye Nebula, PN in Draco.

B59, 65-7, 78: The Pipe Nebula, dark nebula in Ophiuchus.

Double Star Club List

Nu Draconis: Equal pair of white stars.

Psi Draconis: Light yellow pair.

40/41 Draconis: Equal pair of light yellow stars.

Xi Scorpii: Yellow primary with a pale blue secondary.

Struve 1999: Two yellow-orange stars.

Beta Scorpii: Bright white primary with a light blue secondary.

Nu Scorpii: Yellow and light blue stars.

Delta Serpentis: Pale yellow pair.

Theta Serpentis: Pair of blue-white stars.

Focus On Constellations - Jim Kvasnicka

Hercules

Hercules, the Strongman is the fifth largest constellation covering an impressive 1,225 square degrees. It's best known by its Keystone asterism making it easy to spot. On the western side of the Keystone is the constellations finest object, the Great Hercules Cluster M13, the best globular cluster in the northern hemisphere. Hercules contains a second outstanding globular cluster in M92 which is often overlooked. The constellation has a number of colorful double stars, planetary nebulae, and a number of galaxies. Hercules is best seen in July.

Mythology and History

Hercules was the son of Zeus by a mortal woman and hated by Zeus's wife Hera. He began his life of heroic violence by strangling two serpents in his crib as an infant. The serpents were sent by Hera to kill Hercules. As a man Hera made Hercules insane by burning down his house and killing his wife and children. When he recovered his sanity he sought the help from the oracle of Delphi. The oracle told Hercules he must serve his cousin Eurystheus, King of Argos. Hoping to kill Hercules, Eurystheus gave him 12 supposedly impossible tasks to do. These were the 12 labors of Hercules and included strangling the Nemean Lion and striking off the many heads of the Hydra. After he completed the 12 labors Hercules took part in the voyage of Jason and the Argonauts to find the Golden Fleece. Hercules died when his second wife accidentally poisoned him. Zeus honored his son by making him a god and placing him in the sky forever.

Objects Magnitude 12.0 and Brighter

Galaxies: NGC6548, NGC6574, NGC6166, NGC6181, NGC6207, NGC6482, NGC6487, NGC6501

Open Clusters:

Globular Clusters: M13, M92, NGC6229

Planetary Nebulae: NGC6210, IC4593, PK51+9.1, PK53+24.1

Bright Nebulae:

SNREM:

Dark Nebulae:

Named Stars: Rasalgeth (Alpha), Kornephoros (Beta), Sarin (Delta), Marfik (Kappa), Maasym (Lambda), Kajam (Omega)

Number of Objects in Various Observing Clubs

Messier Club: 2 objects

Double Star Club: 5 objects

Herschel 400 Club: 2 objects

Globular Cluster Club: 3 objects

Open Cluster Club: 1 object

Planetary Nebula Club: 3 objects

Urban Club: 3 objects

ANNUAL MEMBERSHIP

REGULAR MEMBER - \$30.00 per year. Includes club newsletter, and 1 vote at club meetings, plus all other standard club privileges.

FAMILY MEMBER - \$35.00 per year. Same as regular member except gets 2 votes at club meetings.

If you renew your membership prior to your annual renewal date, you will receive a 10% discount.

Club members are also eligible for special subscription discounts on Sky & Telescope Magazine.

Club Telescopes

To check out one of the club telescope contact **Jason Noelle**. If you keep a scope for more than a week, please check in with Jason 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.

100mm Orion refractor:
Available

10 inch Meade Dobsonian:
Available

13 inch Truss Dobsonian:
Available

Program Chair Minute - Dave Churilla

The May PAC Meeting Program was to be a presentation by yours truly about solar observing. I have to confess I was afraid that if we had cloudy weather it would be too much of old hat for many of the more experienced club members. But Mother Nature was kind to us (I still need to sacrifice my first born yet as promised) and we had a very nice evening to view the sun. To my further surprise many PAC members brought out their telescopes for viewing the sun making it an impromptu Near-Star Party. We had 7 telescopes set up and about 35 people showed up to enjoy the evening. I never did give my presentation as there were plenty of experienced help for new members to draw from and the time ended up a fun viewing party. There were some spectacular views through my .6 Angstrom T-Scanner H-Alpha Filter showing great surface detail despite pretty quiet sunspot areas (it keeps on ticking Rick!). But we did have 6 sunspot areas to view and plenty of filaments and prominences to look at. Thanks to all as it was a fun evening.

This month (on June 28th) we'll have a short meeting at 7:30 PM followed by a BBQ and Swap Meet hosted by Bob Kacvinsky and Dan Delzell. The BBQ will feature Cajun Bob's smoked pulled pork sandwiches, Cole Slaw, Baked Beans, a cookie and lemonade (if you want something else to drink bring it) for only \$5 a head. We'll have tables set up so you can put out your Astronomy Equipment that you'd like to sell or trade. It should be a fun evening.

Just a note on the swap meet: Please, let's not make this a garage sale for everyone's junk. Only bring equipment that is used in astronomy to sell. Be sure to mark it with the price you are asking and your name. Thank you!

ONE OTHER NOTE: Please RSVP me (Dave Churilla @ weber2@inebraska.com) if you plan to come to the meeting and how many will be with you. Family are welcome but we'd like to have an approximate head count. Again remember the cost is \$5 a head. Thanks again!

Following are upcoming programs you won't want to miss.

Jul 2011: *Comet Hunting* by Cal Beard. This presentation should be very interesting. More to come.

Aug 2011: *Astrophotography* by Brett Boller & John Willman. Brett and John will try to help show everyone how they can get started and what to look for. More to come.

Sep 2011: *Making Telescopes* by Brian Sivill. Building your own scope isn't as difficult as many think it is. Brian will help with some basics. More to come.

Oct 2011: *Astronomy Update* by Jack Dunn. Jack will fill us in on things space and astronomy as well as multimedia. More to come.

Nov 2011: *How to Buy a Telescope* This will be our now annual public seminar on how to buy a telescope. We'll need your help assisting guests. More to come.

I'll try to keep you apprised of upcoming programs so you can plan to attend.

The members of the PAC Executive Committee work together to plan the monthly PAC Programs. Our goal for the programs is to provide a good mix of information, entertainment (including time to visit with one another), and to make them relevant for all experience levels as well as to hit all interests in astronomy. In addition we want to get club members involved with giving presentations as there is a lot of expertise in different areas that we all could benefit from. So we would love to have your comments and suggestions concerning what you would like see in our programs. Call me at 402-467-1514 or email me at weber2@inebraska.com.

Challenge Observing Objects for May/June

Each month I will have two objects, one for the more seasoned observer and one for the beginning observer. Each object I hope will challenge you just a little bit. I will provide you with a little bit of information about the object. It is your job to find it and if you would write a little report or draw what you see. The first person to report back on each object will have their report published in the next issue of the newsletter. Happy Hunting!

Advanced Object

NGC 6207

NGC 6207 is a small, 12.1 magnitude spiral galaxy that just happens to lie about one degree to the northeast of the cluster M13 in Hercules. Its dimensions are 1.7 x 3.3 arc minutes and lies approximately 22 million light-years from earth.



Image credit: Dark Horse Observatory

Beginner Object

NGC 3242

Known as the Ghost of Jupiter or Caldwell 59, NGC 3242 is a planetary nebula located in the constellation Hydra. It lies at a distance of 1,400 light-years with a apparent magnitude of 8.6. It is approximately a small 25 arc seconds in diameter.

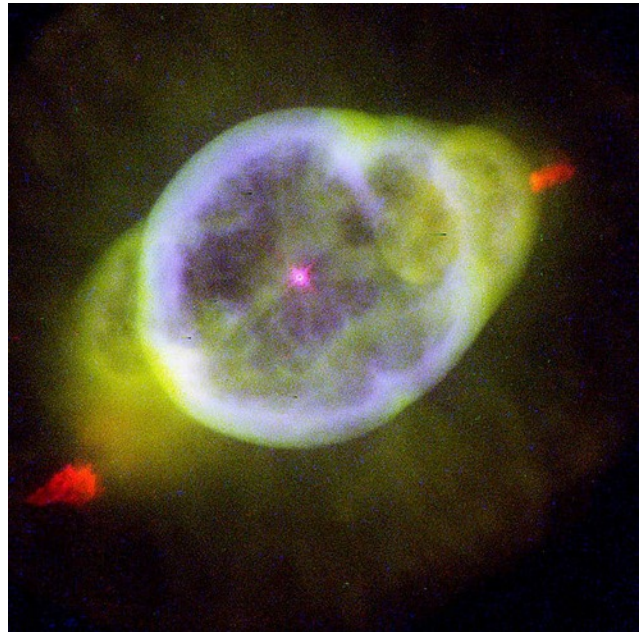


Image credit: NASA

Baby Black Holes Grew Up Fast by Tammy Plotner of Universe Today

For more than six weeks, the watchful eye of NASA's Chandra X-ray Observatory kept track of a small portion of sky dubbed the Chandra Deep Field South (CDFs). Its object was to research 200 distant galaxies dating back to about 800 million to 950 million years old. What Chandra was looking for was evidence of massive black holes. The deepest evidence yet...

When combined with very deep optical and infrared images from NASA's Hubble Space Telescope, the new Chandra data leads astronomers to speculate that young black holes may have evolved in unison with their young galaxies. "Until now, we had no idea what the black holes in these early galaxies were doing, or if they even existed," said Ezequiel Treister of the University of Hawaii, lead author of the study appearing in the June 16 issue of the journal *Nature*. "Now we know they are there, and they are growing like gangbusters."

What does this new information mean? The massive growth of the black holes in the CDFs are just shy of being a quasar – the super-luminous by-product of material slipping over the event horizon. "However, the sources in the CDFs are about a hundred times fainter and the black holes are about a thousand times less massive than the ones in quasars." How often did it occur in the new data? Try between 30 and 100% of the case studies, resulting in an estimated 30 million supermassive black holes in the early Universe.

"It appears we've found a whole new population of baby black holes," said co-author Kevin Schawinski of Yale University. "We think these babies will grow by a factor of about a hundred or a thousand, eventually becoming like the giant black holes we see today almost 13 billion years later."

While the existence of these early black holes had been predicted, no observation had been made until now. Due to their natural "cloaking devices" of gas and dust, optical observation had been prohibited, but x-ray signatures don't lie. The concept of tandem black hole / galaxy growth has been studied closer to home, but taking a look further back into time and space has revealed growth a hundred times more than estimated. These new Chandra results are teaching us that this connection begins at the beginning.

"Most astronomers think in the present-day universe, black holes and galaxies are somehow symbiotic in how they grow," said Priya Natarajan, a co-author from Yale University. "We have shown that this codependent relationship has existed from very early times."

Theories also abound which imply neophyte black holes may have played "an important role in clearing away the cosmic "fog" of neutral, or uncharged, hydrogen that pervaded the early universe when temperatures cooled down after the Big Bang". But to the contrary, the new Chandra findings point



This composite image from NASA's Chandra X-ray Observatory and Hubble Space Telescope (HST) combines the deepest X-ray, optical and infrared views of the sky. X-ray: NASA/CXC/U.Hawaii/E.Treister et al; Infrared: NASA/STScI/UC Santa Cruz/G.Illingworth et al; Optical: NASA/STScI/S.Beckwith et al

towards the pervasive materials stopping ultraviolet radiation before the re-ionization process can occur. Resultant stars and dormant black holes are the most likely culprit to have cleared space for the cosmic dawn.

Although the Chandra X-ray Observatory is up to the task of picking up on uber-faint objects at incredible distances, these baby black holes are so veiled that only a few photons can slip through, making individual detection impossible. To gather this new data, the team employed Chandra's directional abilities and tallied the hits near the positions of distant galaxies and find a statistically significant signal.

Astronomy Word Search

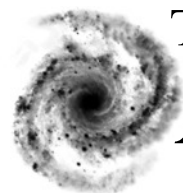
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ANDROMEDA GALAXY
 APOGEE
 ASTEROID
 ASTRONOMER
 ATMOSPHERE
 AURORA
 BINARY STAR
 BLACK HOLE
 CONSTELLATION
 CORONA
 CRATER
 DEEP SPACE

ECLIPSE
 EQUINOX
 GALAXIES
 GALILEO
 GRAVITY
 HUBBLE
 KEPLER
 LIGHT YEAR
 METEOR
 MILKY WAY
 MOON
 NEBULA

ORBIT
 PARSEC
 PERIGEE
 POLARIS
 PROXIMA CENTAURI
 PULSARS
 QUASARS
 RED GIANT
 SATELLITE
 SOLAR SYSTEM
 SOLAR WIND
 SPACE SHUTTLE

SPACECRAFT
 STARS
 SUN
 SUPERNOVA
 TELESCOPE
 TIDES
 UNIVERSE
 WHITE DWARF



THE *Prairie* *Astronomy* *Club*

Amateur Astronomy --
A Hobby as Big as the Universe

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 to the right. Newsletter comments and articles should be submitted to: **Jason Noelle at oegrad2002@yahoo.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.

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FIRST CLASS MAIL

Next PAC Meeting
Tuesday
June 28 , 2011
7:30 PM
Hyde Observatory