ASTRAL PROJECTIONS

July 2013
Volume 24 Issue 7

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A look inside this issue:

JUN MEETING: Matthew McCue presented an Astronomical Pronunciation Guide, and held a "Pronunciation Bee" with a prize for the winner. He wrote: "We all had fun at the pronunciation bee this past evening following the monthly meeting of our club. We had a good turnout of about 20 people, of whom about 17 participated. I talked about twenty minutes and then went right to the bee, which lasted about an hour and 35 minutes, progressing from easier to more difficult celestial objects and other astronomical terms. Handouts were distributed to all present. This was an excellent way for everyone to learn about the pronunciation and meaning of about 70 diverse astro objects and terms in an entertaining and interactive way."

The winner of the Pronunciation Bee was Vic Palmieri. The prize was a $100 gift certificate for OPT (half donated by OPT and half by Matthew.)

Thanks Matthew for a great evening.

JULY MEETING: July 12, 2013, Ryan Knipple will present material on Pluto and Kuiper Belt Objects.

Also at the next meeting a gift certificate for $200 from Starlight Instruments will be raffled off. Phil Zollner won this certificate at NEAF but decided to offer it to other club members via a raffle. Paid up members can participate in the raffle. Go to www.starlightinstruments.com to see if there is anything there that you might want. We would like to see someone win this gift certificate and actually be able to use it.

Announcements

PERSEID PICNIC: This year's ASTRA Picnic will be held at the home of Marge and Rich Brady on Saturday August 10th from 3:00 PM to 7:00 PM. The cost will be $5.00 per person up to a max of $10.00 per family. That will cover meat (Hotdogs, Hamburgers, Sausage, and Chicken), coffee, and paper goods.

Each family should bring a covered dish to add to the food such as: baked ziti, pasta salad, garden salad, coleslaw, potato salad, pretzels, potato chips, dips, cake, cookies, soda or any other dish you would like to bring.

Please let me know by Monday August 3th if you intend to attend by calling me at 732-840-0137 or e-mail me at President@astra-nj.org. Coordinate covered dish with Marge at the number above.

What's up this month?

JAKE'S BRANCH COUNTY PARK: Come join us under star filled skies to observe the Universe. Saturday, July 13, 2013, 9:00 PM - 11:00 PM. Location**:** Jakes Branch County Park, Double Trouble Rd, Beachwood, NJ 08722

Check the online message board on the date of the star party for up to date information on these events and directions.

High-energy Spy

By Dr. Martin C. Weisskopf

The idea for the Chandra X-Ray Observatory was born only one year after Riccardo Giacconi discovered the first celestial X-ray source other than the Sun. In 1962, he used a sounding rocket to place the experiment above the atmosphere for a few minutes. The sounding rocket was necessary because the atmosphere blocks X-rays. If you want to look at X-ray emissions from objects like stars, galaxies, and clusters of galaxies, your instrument must get above the atmosphere.

Giacconi's idea was to launch a large diameter (about 1 meter) telescope to bring X-rays to a focus. He wanted to investigate the hazy glow of X-rays that could be seen from all directions throughout the sounding rocket flight. He wanted to find out whether this glow was, in fact, made up of many point-like objects. That is, was the glow actually from millions of X-ray sources in the Universe. Except for the brightest sources from nearby neighbors, the rocket instrument could not distinguish objects within the glow.

Giacconi's vision and the promise and importance of X-ray astronomy was borne out by many sounding rocket flights and, later satellite experiments, all of which provided years-, as opposed to minutes-, worth of data.

By 1980, we knew that X-ray sources exist within all classes of astronomical objects. In many cases, this discovery was completely unexpected. For example, that first source turned out to be a very small star in a binary system with a more normal star. The vast amount of energy needed to produce the X-rays was provided by gravity, which, because of the small star's mass (about equal to the Sun's) and compactness (about 10 km in diameter) would accelerate particles transferred from the normal star to X-ray emitting energies. In 1962, who knew such compact stars (in this case a neutron star) even existed, much less this energy transfer mechanism?

X-ray astronomy grew in importance to the fields of astronomy and astrophysics. The National Academy of Sciences, as part of its "Decadal Survey" released in 1981, recommended as its number one priority for large missions an X-ray observatory along the lines that Giacconi outlined in 1963. This observatory was eventually realized as the Chandra X-Ray Observatory, which launched in 1999.

The Chandra Project is built around a high-resolution X-ray telescope capable of sharply focusing X-rays onto two different X-ray-sensitive cameras. The focusing ability is of the caliber such that one could resolve an X-ray emitting dime at a distance of about 5 kilometers!

Composite image of DEM L50, a so-called superbubble found in the Large Magellanic Cloud. X-ray data from Chandra is pink, while optical data is red, green, and blue. Superbubbles are created by winds from massive stars and the shock waves produced when the stars explode as supernovas.

The building of this major scientific observatory has many stories.

Learn more about Chandra at www.science.nasa.gov/missions/chandra . Take kids on a "Trip to the Land of the Magic Windows" and see the universe in X-rays and other invisible wavelengths of light at spaceplace.nasa.gov/magic-windows.

Dr. Weisskopf is project scientist for NASA's Chandra X-ray Observatory. This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

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CELESTIAL EVENTS FOR July: Mercury is in the glare of the Sun for most of the month, but reappears in the dawn sky by the 20th. Venus is in the western evening. Mars is visible low in the dawn sky this month. Jupiter reappears low in the dawn sky. Saturn is in the western evening sky and sets after midnight. Highlights for the month:

3 Venus in Beehive
5 Jupiter 1.1° S of M35
6 Mars 4° N of Moon
8 New Moon
10 Venus 7° N of Moon
16 First Quarter
Mars 0.5° S of M35
17 Saturn 3° N of Moon
22 Venus 1.2° N of Regulus
Mars 0.8° N of Jupiter
Full Moon
29 Last Quarter Moon

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CLUB TELESCOPES:

A.S.T.R.A. owns five small telescopes:

- 6-inch Dobsonian (in need of repairs)
- 8-inch Dobsonian
- 80mm Celestron Refractor
- 120mm EQ AstroView Refractor.
- Lunt 35mm H-Alpha solar scope

These telescopes are available for club members to borrow and use for a month or two at a time.

ASTRA-WEAR – Embroidered and/or Printed items with the ASTRA Logo

You can see some samples at ASTRA meetings. To order by mail: Shelter Cove Embroidery Co. 1333 Bay Ave Toms River, NJ 08753 call 732-506-7700 or E-mail astra-wear@estitches.com. Order form is on the ASTRA website.

ASTRA LIBRARY OF BOOKS AND DVDS: Many books and DVDs are available for loan from the ASTRA Library for a one month period. A list of these items is available on the ASTRA website. Request for these items must be made prior to our regular meeting and returned by the following meeting. Please e-mail your request for these items to our Librarian Barbara Novick at Library-Loan@astra-nj.org or call her at 732-840-3111.

ASTRONOMICAL LEAGUE MEMBER SOCIETY

Astronomical League National Headquarters

9201 Ward Parkway; Suite 100

Kansas City, MO 64114

1-816-333-7759 or www.astroleague.org

The REFLECTOR is published in March, June, September and December. If you do not receive your copy of the REFLECTOR magazine, contact Astronomical League Coordinator (Alcor) Ro Spedaliere (Treasurer@astra-nj.org)

ASTRONOMICAL ITEMS FOR SALE, OR HELP WANTED ADVERTISEMENTS: If you have an item to sell, or need help with an astronomical problem (a question, or telescope setup) contact the President President@astra-nj.org to announce it at a meeting and send the advertisement to the newsletter (See Newsletter below).

FOR SALE: Tele-vue Radian eyepiece, 14mm. Like new in original packaging. Rarely used. $120.00 (one half original price). Contact Phil Zollner: pazap at optimum.net or 732-905-0889

NEWSLETTER: E-mail material (meeting reports, observing reports, or other items of interest) to Newsletter@astra-nj.org.

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EXECUTIVE BOARD

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SCHEDULE FOR 2013: If anyone would like to do a presentation or suggest one, please contact the executive board.

ASTRA TENTATIVE SCHEDULE FOR 2013

STAR PARTIES NOT INCLDED

(Comments and Suggestions are Welcome)

Jan 11	Telescope Workshop
Feb 8	Cancelled
Mar 8	Top Stories for 2012 – Rich Brady
Apr 12	Famous Astronomers VIII – Bob Salvatore
May 10	Telescope Equipment Show & Tell – All Members
Jun 14	Astronomical Pronunciation Guide – Matthew McCue
Jul 12	Pluto and Kuiper Belt Objects – Ryan Knipple
Aug 9	No Meeting
Aug 10	*Saturday - Perseid Picnic*
Sep 13	Terminology Guide (?) – Sam Micovic
Oct 11	Planetarium Show
Nov 8	Tentative – Other Telescopes – Rich Brady
Dec 13	Awards, Open Meeting

Check us out on Facebook, search groups for (ASTRA Astronomy) and look for our logo.