



ASTRAL PROJECTIONS

November 2013
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OCTOBER MEETING: ASTRA Members saw the 8:30 PM Planetarium show – “Touching the Edge of the Universe.”

NOVEMBER MEETING: Nov 8, 2013, Rich Brady will present “Telescopes II - Telescopes Bob Didn't Tell You About.”

Announcements

RYAN KNIPPLE ASTRONOMY BLOG: ASTRA members can post anything they want about astronomy and their own observations on <http://captainknipz.weebly.com>, Ryan's Astronomy Blog

ELECTION OF CLUB OFFICERS: It's time to think about the election of club officers. Anyone interested in serving as a club officer (President, Vice President-Secretary, or Treasurer) please let the current executive board know.

OBSERVER'S HANDBOOKS AND CALENDARS 2014: The handbooks and calendars have been ordered and should be available no later than the December meeting.

SCHEDULE FOR 2014: Ideas for the 2014 schedule are being solicited. (See last page of Newsletter.)

DONATED TELESCOPES: John Endreson posted pictures of the two donated telescopes on the ASTRA Message Board. One was a Meade 60mm EQ refractor and it is in good shape. The second is a Celestron NexStar 8i SE and needs some work. John estimates the about \$200 would be needed to fix the telescope after which it would be available for loan to the members. The \$200 would come from the ASTRA Telescope Fund. If anyone has an objection to spending this money, let us know. We will vote on the expenditure at the next meeting.

What's up this month?

JAKE'S BRANCH COUNTY PARK: Come join us under star filled skies to observe the Universe. Saturday, November 9, 2013, 7:00 PM - 9:00 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.

Countdown to launch of ESA's billion-star surveyor

21 October 2013 (News release from European Space Agency. All rights reserved.)

ESA's billion-star surveyor Gaia will be launched from Europe's spaceport in Kourou on 20 November to begin a five-year mission to map the stars with unprecedented precision.

Gaia's main goal is to create a highly accurate 3D map of our Milky Way Galaxy by repeatedly observing a billion stars to determine their positions in space and their movement through it.

Other measurements will assess the vital physical properties of each star, including temperature, luminosity and composition. The resulting census will allow astronomers to determine the origin and the evolution of our Galaxy.

Gaia will map the stars from an orbit around the Sun, near a location some 1.5 million km beyond Earth's orbit known as the L2 Lagrangian point.

The spacecraft will spin slowly, sweeping its two telescopes across the entire sky and focusing their light simultaneously onto a single digital camera, the largest ever flown in space – it has nearly a billion pixels.

For the last two months Gaia has been rigorously tested in Kourou as part of the launch campaign.

"Getting ready for launch is an extremely busy phase for the mission teams, but it's also extremely exciting and rewarding to see our mission so close to launch," says Giuseppe Sarri, ESA's Gaia project manager.

Earlier this month the spacecraft's sunshield passed the final deployment test in the cleanroom in Kourou. It has now been stowed in its final configuration ready for the launch.

Shortly after launch, the sunshield will be deployed, forming a 10.5 m-wide 'skirt' around Gaia's base.

The shield has two purposes: to shade Gaia's sensitive telescopes and cameras from sunlight, allowing them to cool to their operating temperature of -110°C, and to provide power to operate the spacecraft. The Sun-facing side of the shield is partially covered with solar panels to generate electricity.

"With this important milestone – and others – now completed, we are working through an intensive checklist of final activities that will culminate in the much-awaited launch of our 'discovery machine'," adds Giuseppe.

Tomorrow at ESOC, ESA's European Spacecraft Operations Centre in Darmstadt, Germany, the Gaia Mission Control Team will conduct a full simulation for the critical launch and early orbit phase of the mission.

Meanwhile, back at Kourou, Gaia will be transferred to the fuelling facility to fill the tanks of its propulsion system, used to orient the spacecraft once it reaches space.

In the first week of November, the spacecraft will be mounted on the Soyuz launcher adapter and then integrated with the upper stage, which will eventually help boost Gaia onto its journey to L2.

The Soyuz fairing will then be added, the nose cone that protects the sensitive spacecraft during the first four minutes of launch.

On 15 November, Gaia will be moved to the launch pad for integration with the Soyuz launcher itself. Finally, the rocket will be fuelled.

Gaia's launch time is set for 20 November at 08:57:30 GMT, and will be streamed live on the ESA Portal.

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Artist's impression of Gaia. *Credit: ESA/ATG medialab; background: ESO/S. Brunier*





CELESTIAL EVENTS FOR November:

Mercury is in the dawn sky by the second week of November. Venus is low in the SW evening sky. Mars is Leo in the morning sky and moves into Virgo late in the month. Jupiter rises ENE mid-evening – in Gemini. Saturn appears in dawn twilight late in the month in Libra. Highlights for the month:

- 3 Daylight Savings Time ends
New Moon
 - 7 Venus 8° S of Moon
 - 10 First Quarter
 - 17 Full Moon
Leonid meteors peak
 - 22 Jupiter 5° N of Moon
 - 25 Last Quarter Moon
 - 26 Mercury 0.3° S of Saturn
 - 27 Mars 6° N of Moon
 - 29 Spica 0.9° S of Moon; possible occultation
- Credit: Observer's handbook



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

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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.



EXECUTIVE BOARD

President – Rich Brady President@astra-nj.org
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SCHEDULE FOR 2013: If anyone would like to do a presentation or suggest one, please contact the executive board.

REMAINDER OF ASTRA SCHEDULE FOR 2013

Jake's Branch and other star parties not included

Nov 8 Tentative – Other Telescopes – Rich Brady
Dec 13 Awards, Open Meeting
Dec 21 Winter Star Watch (7 – 11 PM)

SCHEDULE FOR 2014: If anyone would like to do a presentation or suggest one, please contact the executive board.

ASTRA TENTATIVE SCHEDULE FOR 2014

Jake's Branch and other star parties not included

(Subject to Change – Comments and Suggestions are Welcome)

Jan 10 Telescope Workshop
Feb 14
Mar 8 Spring Star Watch – Public star party at OCC. (Moon 1st Qtr)
Mar 14
Apr 11
May 9 Telescope Equipment Show & Tell – All Members
Jun 7 Summer Star Watch – Public star party at OCC. (Moon 2 days after 1st Qtr)
Jun 13
Jul 11
Aug 8 No Meeting
Aug 9 Saturday - Perseid Picnic
Sep 6 Fall Star Watch – Public star party at OCC. (Moon 4 days after 1st Qtr)
Sep 12
Oct 10 Planetarium Show
Nov 14
Nov 29 Winter Star Watch – Public star party at OCC. (Moon 1st Qtr)
Dec 12 Awards, Open Meeting

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

