



ASTRAL PROJECTIONS

Volume 21 Issue 8

August 2010

**** PLEASE NOTE ****

Due to the renovation of the planetarium, meetings are in the Solar Lounge beginning at 7:00 PM. The Solar Lounge is located in the Ocean County College Center building #15 across from the Planetarium.

2010 ASTRA Summer Picnic

Meeting Schedule

August 7th ASTRA's Annual Picnic at John Endreson's House in Forked River, NJ from 3:00 to 7:00 then observing. \$5.00 per person, and \$15.00 per family.

NO MEETING August 13th

September 10th "Open General Meeting" & Public Star Party. If anybody has a topic that they would like to talk about contact the club officers.

October 8th Meeting
"Astrophotography" given by Phil Zollner + Public Star Party.

November 12th Meeting "Open General Meeting" + Public Star Party. If anybody has a topic that they would like to talk about contact the club officers.

This year's ASTRA summer picnic will be on Saturday August 7th at 3:00pm to 7:00pm and it will be held at John Endreson's house located at 722 Maple Road Lanoka Harbor, NJ 08734 Members and their families are welcome. The cost will be \$5.00 per person and \$15.00 per family. You can send your payment to the address above or bring it with you when you arrive. Please RSVP by sending an e-mail to oldjedi2001@msn.com or by leaving a message on the ASTRA hotline 609-971-8493

We will have the basics, Hot Dogs, Hamburgers, Grilled Chicken, Pasta, and an assortment of cold salads. In addition, soda, juice, beer, and wine will be available. If someone wants to bring some additional food items, they can do that as well just contact John Endreson so he can let you know what items are all ready accounted for. For dessert, we will have cake and coffee.

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The 2010 Perseids Meteor Shower

The Earth is predicted to pass closest to the core of P109 Swift-Tuttle near 0100 Universal Time on August 13. Both the mornings of August 12 and 13 will be good, with perhaps the 13th offering slightly more activity due to the fact we are closer to the predicted time of maximum activity.

On the mornings of August 12 and 13, estimated peak rates to be near 60 for those under transparent rural skies. Those under dark but hazy skies should still be able to see 30-40 Perseids per hour. Those under urban skies will be lucky to exceed 20 per hour.

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ASTRA Library of Books & DVD's

The following books and DVD's are available to borrow for one month at a time. Request for these items must be made prior to our regular meeting and returned the following meeting. Please e-mail your request for these items to John Endreson webmaster@astra-nj.org or call the ASTRA Hotline 609-971-8493

BOOKS

- 1) **The Far Side of the Moon** by Charles J. Byrne.
- 2) **Night Watch** by Terence Dickinson
- 3) **New Atlas of the Moon** by Serge Brunier (Author), Thierry Legault (Photographer).
- 4) **Encyclopedia of space** by National Geographic
- 5) **The Real Mars** by Michael Hanion
- 6) **Don't Know Much about the Universe** by Kenneth C. Davis's

DVD's

- 1) **Parts 1&2 Understanding the Universe What's New in Astronomy 2003** Taught by: Professor Alex Filippenko. Each part has 8 lectures, 45 minutes per lecture.
- 2) **Parts 1 to 5 Understanding the Universe An Introduction to Astronomy** Taught by: Professor Alex Filippenko each part has 8 lectures, 45 minutes per lecture.
- 3) **COSMOS**
In his "ship of the imagination," Carl Sagan guides us to the farthest reaches of space and takes us back into the history of scientific inquiry in the course of 13 fascinating hours.

For a complete list of books and DVD's, visit our website or Call the ASTRA Hotline at 609-971-8493.

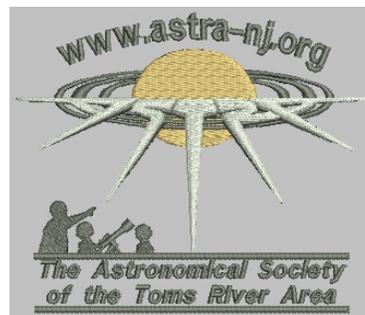
ASTRA Club Telescopes

A.S.T.R.A. owns two Dobsonian type telescopes of 6 inches and 8 inches in aperture and two refractors one 80mm Celestron w/Altaz mount and one 120mm Orion AstroView w/equatorial mount. After suitable training, club members may borrow these telescopes for a month at a time. Contact John Endreson at: Webmaster@astra-nj.org or call the ASTRA Hotline 609-971-8493 if you are interested in using one of our scopes.

Wanted!

No longer used telescopes, parts, and accessories.
Call the ASTRA Hotline at 609-971-8493
We will come and pick-up your used equipment.

ASTRA-WEAR: For 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

August 2010 Celestial Events

1st Dusk: Mars is just 2 deg. lower left of Saturn. Both planets are found in the west one hour after sunset 7 deg. upper left of bright Venus.

3rd Last-Quarter Moon (12:59 am EDT)

4th Predawn: The Pleiades are 3 deg. lower left of the waning crescent Moon.

6-8th Dusk: Mars and Saturn are just above bright Venus. All 3 planets are within 5 deg. of one another.

9th New Moon (11:08 pm EDT)

11th Dusk: The thin crescent Moon is a few deg. lower left of Mercury, extremely low in the west 15 minutes after sunset.

11-12th Night: The Perseid Meteor Shower peaks late these two nights.

16th First-Quarter Moon (2:14 pm EDT)

19-20th Night: Neptune is at opposition to the Sun.

24th Full Moon (1:05 pm EDT)

26-27th Evening: The Moon is about 6 deg. above Jupiter on the 26th and 12 deg. left of Jupiter on the 27th.

31st Predawn: The Pleiades are just 6 deg. above the waning, slightly gibbous Moon.

Whats up this month?

ASTRA Public Outreach & Star Parties Schedule for August

Members Only Star Party Earthwatch/Drexel #7

Observing with Earthwatch/Drexel students

Date: Friday, 8/13/2010

Time: 6:00 PM - 11:00 PM

Location: The Lighthouse Center, 7th Steet & Navajo Dr,
Waretown, NJ 08758

Coyle Field Public Star Party

ASTRA Memembers meet to help newbies learn the night sky and how to use their telescopes

Date: Saturday, 8/14/2010

Time: 7:00 PM - 2:00 AM

Location: Coyle Field, Coyle Field Rt 72 Stevenson Road,
Burlington County, NJ 08019

Members Only Star Party Earthwatch/Drexel #8

Observing with Earthwatch/Drexel students

Date: Friday, 8/27/2010

Time: 6:00 PM - 11:00 PM

Location: The Lighthouse Center, 7th Steet & Navajo Dr,
Waretown, NJ 08758

Jake's Branch Public Star Party #4

A star watch for the Ocean County Parks System open to the public.

There will be many telescopes to look in.

Date: Saturday, 8/28/2010

Time: 7:00 PM - 11:00 PM

Location: Jakes Branch County Park, Double Trouble Rd,
Beachwood, NJ 08722

Call the ASTRA Hotline 609-971-8493 or check the message board on the date of the star party for up to date information on these events.

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 or the ASTRA Hotline 609-971-8493 to announce it at a meeting and send the advertisement to the newsletter (See Newsletter below).

Newsletter: E-mail material (Meeting reports, Observing reports) to Newsletter@astra-nj.org

EXECUTIVE BOARD

President – Bob Salvatore,
President@astra-nj.org;

Vice President-Secretary – John Endreson, VP@astra-nj.org;

Treasurer - Ro Spedaliere,
Treasurer@astra-nj.org;

Newsletter Editor – John Endreson, Newsletter@astra-nj.org;

Webmaster - John Endreson,
Webmaster@astra-nj.org.

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



-from page 1- “picnic”

The Endreson’s house has a swimming pool, back yard games, and plenty of shaded areas to sit, but if it gets to hot guests are welcome to sit inside the air-conditioning if swimming is not your thing.

Some other activities will include “weather permitting” Solar observing, roasting marshmallows in the fire pit and for those who stay late, nighttime observing. Please let John Endreson know ASAP if you will be attending this year’s picnic.



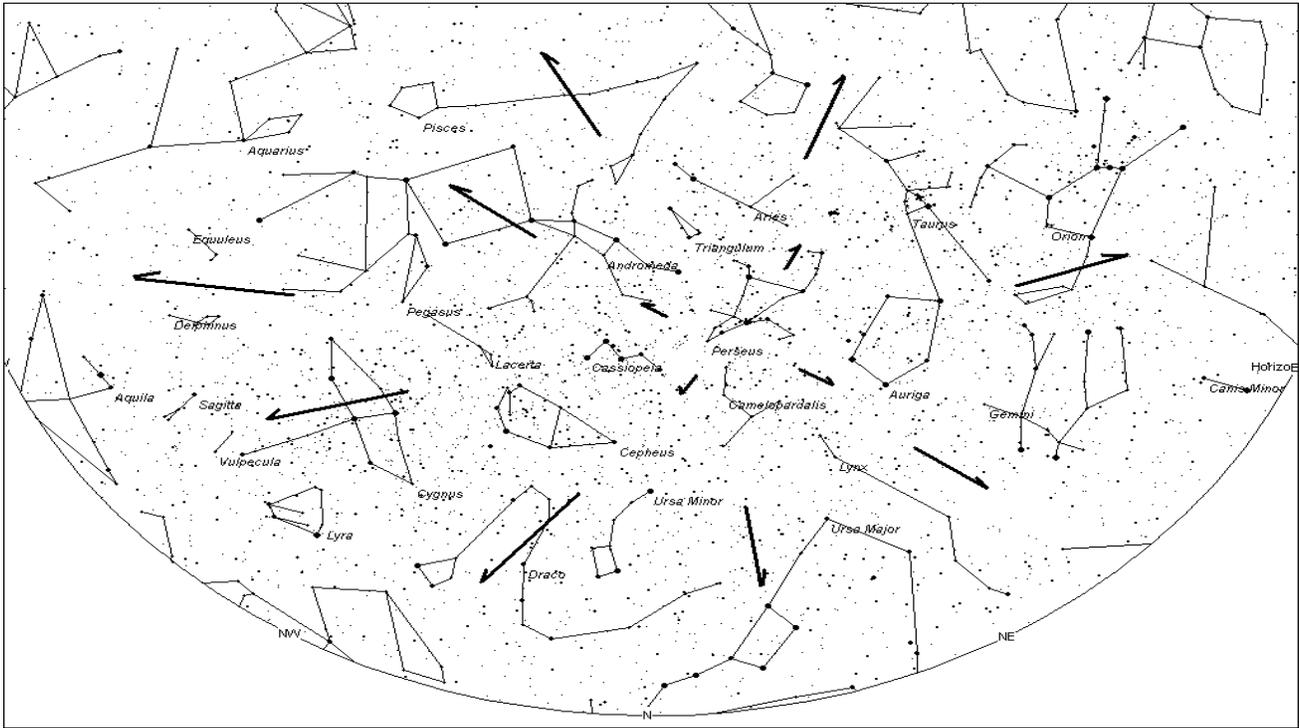
ASTRA is recognized as having one of the best public outreach programs in the country as recognized by Astronomy magazines “Out of this World” public outreach program. For more information go to <http://nightsky.jpl.nasa.gov> or contact Ro Spedaliere (Treasurer@astra-nj.org) or the ASTRA Hotline 609-971-8493



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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) or the ASTRA Hotline 609-971-8493 and leave a message.

Viewing Activity from the 2010 Perseids Meteor Shower



This chart represents plotted Perseid meteors (arrows) as seen while facing north near 4:00 a.m. on August 13.

In mid-July the Earth begins to encounter debris released from long period comet 109P Swift-Tuttle. The particles encountered at this time travel in a path far from the mainstream orbit of debris from the comet. Their radiant (the area of the sky these meteors seem to come from) lies on the Andromeda/Cassiopeia border and only their swift velocity reveals their identity as early arrivals of the Perseid meteor shower. The moon is favorable for observing these early Perseids up to July 23, when the waxing gibbous moon will remain in the sky most of the night, obscuring all but the brightest meteors. From then until August 3rd, the moon will interfere with observing during the prime morning hours. During the first week of August the moon becomes a non-factor also by now the Perseid meteors now become more noticeable as their rates are approaching that produced by the random (sporadic) activity seen each hour. The radiant has traversed the southern portions of the constellation of Cassiopeia and now lies among the stars of Perseus. At this time of year, the constellation of Perseus (the hero and slayer of the dreaded Medusa) lies on or near the northern horizon at dusk. This is the absolute worse time to try to view Perseid

activity as a great majority of the meteors occur below the horizon or are blocked by trees and hills. The occasional Perseid that does manage to shoot upward at this time of night is often a magnificent sight as it only skims the upper portions of the Earth's atmosphere. This allows it to last several seconds instead of the normal sub-second streak. The Perseids seen at this time of night will also travel in long paths adding to the impressive scene.

As the evening progresses, the stars of Perseus begin to climb higher into the northeastern sky. As the midnight hour passes the Perseid activity begins to kick into high gear. The radiant now lies high enough above the horizon from most locations to allow meteors to be seen shooting in all directions, including straight down. To see the most activity it would be advisable to view approximately half up in the sky with the radiant toward the edge your field. The best Perseid activity, no matter the date or location, is usually seen during the last hour before the start of morning twilight, when Perseus lies highest above the horizon in a dark sky. This is usually between the hours of 0400 and 0500 local daylight time.

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Transparency is an important factor as many of the Perseid meteors are faint. A hazy, humid night can hide these faint meteors making the display seem much weaker than it actually is. This haze also scatters light from ground fixtures, making it difficult to view the display from urban areas. The characteristic Perseid is a bright white or yellow meteor lasting less than a half second. The brighter meteors usually leave a persistent train or "smoke trail" that lasts a second or two after the meteor has vanished. This is not really smoke at all but rather ionized gas created by the meteor passing through the atmosphere at tremendous velocities.

One of the best times to try and photograph meteors is during the Perseid meteor shower. All you need is a camera capable of exposures lasting one minute or longer. Simply aim the camera high enough to clear the horizon and set the focus to infinity. Don't aim the camera straight up as this is the worst direction for meteor activity. The layer of air directly above you is the thinnest therefore less activity will be seen there compared to the denser portions of the atmosphere located closer to the horizon. Also try to center the camera 30-60 degrees from the radiant so that the meteors are long enough to be easily seen on your photograph. Meteors appearing near the radiant will appear shorter as they are traveling in a direction toward you. It is also advisable to use the fastest film/ ISO setting possible to increase the sensitivity of you camera. Meteors will appear as straight streaks overlapping the curved trails created by the stars moving through the field of view. The length of the star trails will depend on the length of your exposure and the direction you point the camera. Pointing your camera northward will decrease the length of the star trails. Some photographers eliminate the stars trailing by mounting their cameras on motor driven mounts. With this setup the stars remain as pinpoints while meteors are obvious streaks.

It is also enjoyable and scientifically useful to record the meteor activity you see. Experts in meteor astronomy can reduce your data and compare it to others all over the world if you use certain standards in your reporting. First and foremost is to provide the accurate time of your observing session. It is helpful to time each meteor but not absolutely necessary as long as the start and finish times are provided. The observing conditions are very important to properly record, especially if your field of view is obscured by clouds or trees. These obscurations should be recorded to the nearest ten percent. Once per session is fine for trees but at least every 15 minutes for changing conditions such as cloudiness. The limiting magnitude of the sky in your field of view should also be recorded at least once an hour. The easiest way to do this is to count the number of stars visible in pre-selected areas of the sky. These areas and the resulting limiting magnitudes are available from the IMO web site at:

<http://www.imo.net/visual/major01.html#table2>



An artist concept of the Perseids Meteor Shower.