



ASTRAL PROJECTIONS

Feb 2013
Volume 24 Issue 2

Meeting Schedule

February Meeting: Top
Stories for 2012 – Rich Brady

Date: Friday, 2/8/2013

Time: 7:00 PM - 10:00 PM

Location: Robert J. Novins
Planetarium, College Drive,
Ocean County College, Toms
River, NJ 08754

March Meeting: Famous
Astronomers VIII – Bob
Salvatore

Date: Friday, 3/8/2013

Time: 7:00 PM - 10:00 PM

Location: Robert J. Novins
Planetarium, College Drive,
Ocean County College,
Toms River, NJ 08754



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January Meeting: The January meeting was our annual Telescope Workshop. Around 20 people showed up with a wide range of telescopes. I did not see any go-to telescopes. Many of the ASTRA members were present. The guests seemed satisfied with the help that they received. Thanks to the members who were there to help.

Announcements

ASTRA Dues are Due

Membership application form is attached.

Membership in the Astronomical League

is separate and requires an additional dues payment of **\$7.50**. The Astronomical League Membership Form is also attached.

What's up this month?

Jake's Branch Star Party

Date: Saturday, 2/16/2013

Time: 6:00 PM - 8:00 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.



February 2013 Celestial Events

- 2 Spica 0.3° N of Moon
- 3 Last Quarter Moon
- 10 New Moon
- 11 Mars 6° S of Moon
Mercury 5° S of Moon
- 16 Mercury at greatest elongation
- 17 First Quarter
- 18 Jupiter 0.9° N of Moon
- 25 Full Moon

The Art of Space Imagery

By Diane K. Fisher

When you see spectacular space images taken in infrared light by the Spitzer Space Telescope and other non-visible-light telescopes, you may wonder where those beautiful colors came from? After all, if the telescopes were recording infrared or ultraviolet light, we wouldn't see anything at all. So are the images "colorized" or "false colored"?

No, not really. The colors are translated. Just as a foreign language can be translated into our native language, an image made with light that falls outside the range of our seeing can be "translated" into colors we can see. Scientists process these images so they can not only see them, but they can also tease out all sorts of information the light can reveal. For example, wisely done color translation can reveal relative temperatures of stars, dust, and gas in the images, and show fine structural details of galaxies and nebulae.

Spitzer's Infrared Array Camera (IRAC), for example, is a four-channel camera, meaning that it has four different detector arrays, each measuring light at one particular wavelength. Each image from each detector

array resembles a grayscale image, because the entire detector array is responding to only one wavelength of light. However, the relative brightness will vary across the array.

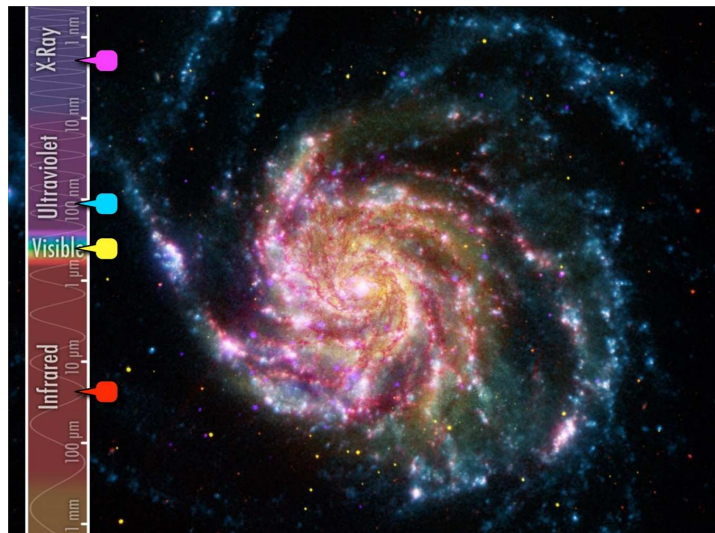
So, starting with one detector array, the first step is to determine what is the brightest thing and the darkest thing in the image. Software is used to pick out this dynamic range and to re-compute the value of each pixel. This process produces a grey-scale image. At the end of this process, for Spitzer, we will have four grayscale images, one for each for the four IRAC detectors.

Matter of different temperatures emit different wavelengths of light. A cool object emits longer wavelengths (lower energies) of light than a warmer object. So, for each scene, we will see four grayscale images, each of them different.

Normally, the three primary colors are assigned to these gray-scale images based on the order they appear in the spectrum, with blue assigned to the shortest wavelength, and red to the longest. In the case of Spitzer, with four wavelengths to represent, a secondary color is chosen, such as yellow. So images that combine all four of the IRAC's infrared detectors are remapped into red, yellow, green, and blue wavelengths in the visible part of the spectrum.

Download a new Spitzer poster of the center of the Milky Way. On the back is a more complete and colorfully-illustrated explanation of the "art of space imagery." Go to spaceplace.nasa.gov/posters/#milky-way.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.



This image of M101 combines images from four different telescopes, each detecting a different part of the spectrum. Red indicates infrared information from Spitzer's 24-micron detector, and shows the cool dust in the galaxy. Yellow shows the visible starlight from the Hubble telescope. Cyan is ultraviolet light from the Galaxy Evolution Explorer space telescope, which shows the hottest and youngest stars. And magenta is X-ray energy detected by the Chandra X-ray Observatory, indicating incredibly hot activity, like accretion around black holes.



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@astran-j.org to announce it at a meeting and send the advertisement to the newsletter (See Newsletter below).

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

Executive Board

President – Rich Brady
President@astran-j.org

Vice President-Secretary – Bob Salvatore, VP@astran-j.org

Treasurer – Ro Spedalieri
Treasurer@astran-j.org

Newsletter Editor – Rich Brady
Newsletter@astran-j.org

Webmaster – Donald Durett
Webmaster@astran-j.org

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



Club Telescopes

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

- 6-inch Dobsonian
- 8-inch Dobsonian
- 80mm Celestron Refractor
- 120mm EQ AstroView Refractor.

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 astrawear@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 revnovick@verizon.net 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 Spedalieri (Treasurer@astran-j.org)

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



ASTRA Membership Application Form

Thank you for your interest in the Astronomical Society of the Toms River Area. Please read carefully and fill in the appropriate information below.

New membership Annual dues are \$ 25.00 (January to December): (\$ _____)

Telescope Fund Assessment required for all new members (\$5.00)

“Optional for returning Members”

Returning members Annual dues are \$ 25.00 from (January to December): (\$ _____)

Prorated membership dues are \$ 15.00 from (July to December): (\$ _____)

TOTAL AMOUNT PAID (as determined by the above schedule): (\$ _____)

PLEASE MAKE CHECKS PAYABLE TO ASTRA

New Members check box

NAME _____ PHONE () _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

Please provide your E-mail address so you can receive a copy of our “Astral Projections” Newsletter.

“If unable to provide an e-mail address, a paper copy of the newsletter will be mailed to you”

E-MAIL ADDRESS _____

I declare that to the best of my knowledge all particulars supplied by me are correct and complete.

APPLICANT SIGNATURE _____

Send this application form with your dues payment to:
A.S.T.R.A. Robert J. Novins Planetarium
Ocean County College P.O. Box 2001
Toms River NJ 08754-2001



www.astroleague.org

ASTRA's Astronomical League Membership Form

What does the Astronomical League offer you, as a Member?

- A subscription to the Reflector, our quarterly, full-color newsletter.
- The Book Service through which you can buy astronomy-related books at a 10% discount. (Does not apply to League Sales merchandise)
- Eligibility for all Astronomical League awards, both national and observing.
- Support an organization that promotes education, observing, research and communications.
- But the most important benefit is that you join a national organization of amateur astronomers. You become part of a group that promotes observing, research, and the love of the sky. You have the opportunity to earn awards for your observing skills and learn more about what other amateurs are doing through our national newsletter.

ASTRA's Astronomical League Dues are \$7.50 and must be paid to ASTRA

"Cash or Check is acceptable"

Name: _____ Phone: () _____ - _____

Address: _____

City: _____ State: _____ ZIP: _____

E-mail: _____

Send this application form with your dues payment to:

Robert J Novins Planetarium
ATTN: ASTRA
Ocean County College
Toms River NJ 08754-2001