

THE DARK SKY OBSERVER

The Dark Sky Observer is a publication of the North Jersey Astronomical Group (NJAG), whose purpose is to promote the study and knowledge of the science of astronomy.

The Dark Sky Observer needs your input!

Letters, comments, suggestions, book and product reviews, and articles are welcomed and encouraged. Contact the editor at 973-249-1926, kdconod@optonline.net, or at this address: Dark Sky Observer

North Jersey Astronomical Group
P.O. Box 1472, Clifton, NJ 07015-1472
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VISIT OUR WEB PAGE AT

<http://njagweb.tripod.com>.

Mary Lou West also maintains a web page at:
<http://www.csam.montclair.edu/~west/njag.html>

MEMBERSHIP

Dues are only \$15.00 per year (\$20.00 for family and \$10.00 for student memberships). Benefits of membership include: \$10 discount on subscriptions to "Sky & Telescope" or "Astronomy" magazines ("Sky & Telescope" subscribers also get a 10% discount on all books, maps, and products at Sky Publishing); a subscription to this newsletter; an e-mail list for the latest club and astronomy news; use of our dark sky sites; field trips to local planetariums, science centers, and star parties; a lending library of astronomical books; a Telescope Loan Program; and star parties for special celestial events.

Make checks out to the NJAG and mail to: North Jersey Astronomical Group, P.O. Box 1472, Clifton, NJ 07015-1472. If you have any questions regarding membership, contact our Acting Membership Committee Chair, Gigi Inturrisi at: g.inturrisi@verizon.net.

UACNJ

The NJAG is a member of the United Astronomy Clubs of New Jersey (UACNJ), a consortium of more than a dozen astronomy clubs, united to better help support, coordinate, and communicate ideas between stargazers in and around the state.

The UACNJ operates an observatory at Jenny Jump State Forest near Hope, NJ which serves as the NJAG's dark sky site.

**CASSINI AT NOVEMBER MEETING**

Wednesday, November 12, 8:00 p.m.

Our guest speaker will be Laura Venner. Laura is a Solar System Ambassador for NASA/JPL and she will give a presentation on the Cassini spacecraft's upcoming mission to Saturn. Laura received an Associates Degree in Science from Bergen Community College and has been an Earth and Space Explainer at the American Museum of Natural History for 3 years.

**WINTER SOLSTICE CELEBRATION
AT DECEMBER MEETING**

Wednesday, December 10, 8:00 p.m.

Members will celebrate the Winter Solstice 12 days early! Join us for an evening of good food and good friends. Please bring a dish or snack to share.

Meetings will be held at 8:00 p.m. on the campus of Montclair State in Richardson Hall room 232.*

*Note our meetings have been moved to Room 232 until further notice. This is just a few doors down from the usual meeting room.

IMPORTANT NOTE ABOUT PARKING

Montclair State is now charging for visitor's parking. Parking is \$3 for 1 to 2 hours at the Red Hawk Parking Deck. Metered parking near the Red Hawk Diner is \$0.50 per half hour (2 hrs. maximum). See: <http://www.montclair.edu/pages/ofm//parking/wheretopark.html>

SKYWATCH

View a total eclipse of the Moon at Riker Hill Park! See page three for details.

STARLINE

For a weekly update on the night sky,
call the StarLine at 973-680-8420.



TELESCOPE NIGHTS

September 4 to December 11

8:00-9:00 p.m.

Thursday nights are Telescope Nights at Montclair State. Weather permitting, telescopes will be set up from 8:00 to 9:00 p.m. Telescope Night are free - bring your friends, drag up the kids, & wake the neighbors!

For directions, see:

njagweb.tripod.com

Telescope Night for Kids: on the first

Thursday

of the month, our event will start at

7:30 p.m.

Thursday, November 6

Thursday, December 4

There will be no telescope night on

November 27.

Please Note: Our telescopes cannot see through clouds! Telescopes will be set up only if the weather permits (it is "clear" if you can see the Moon or ten stars).



SIRTF - the Space Infrared Telescope Facility - was launched into space by a Delta rocket from Cape Canaveral, Florida on 25 August 2003. During its 2.5-year mission, SIRTF will obtain images and spectra by detecting the infrared energy, or heat, radiated by objects in space. Most of this infrared radiation is blocked by the Earth's atmosphere and cannot be observed from the ground.]

SPACE INFRARED TELESCOPE MISSION STATUS

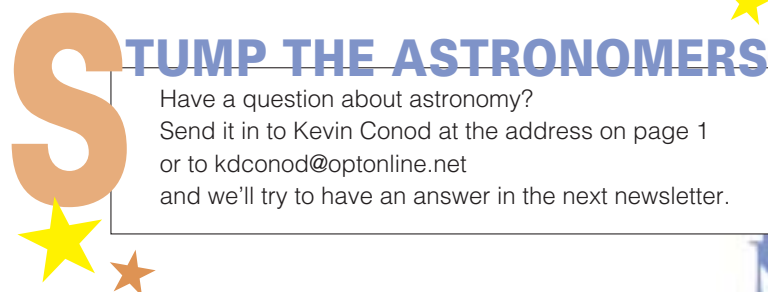
October 13, 2003

The Space Infrared Telescope Facility, NASA's fourth and final Great Observatory, has been successfully focused. This crucial milestone -- which will enable the observatory's infrared eyes to see the cosmos in clear detail -- was achieved after a series of delicate adjustments were made to the telescope's secondary mirror.

Since launch on August 25, the Space Infrared Telescope Facility has performed as expected, proceeding through in-orbit checkout activities on schedule. In addition to achieving final focus, the telescope has cooled to an operating temperature of approximately 5 Kelvin (-268 Celsius or -451 Fahrenheit). This cold temperature will allow the observatory to detect the infrared radiation, or heat, from celestial objects without picking up its own infrared signature.

"The science community now has an outstanding observatory with which to study the universe," said Dr. Michael Werner, project scientist for the mission at NASA's Jet Propulsion Laboratory, Pasadena, Calif. "We are eager to complete the fine-tuning of the observatory and begin the science program."

In-orbit checkout activities are scheduled to continue for 14 more days, after which a one-month science verification phase will occur. Following this, the science program will begin. From its innovative Earth-trailing orbit around the Sun, the Space Infrared Telescope Facility will pierce the dusty darkness enshrouding much of the universe, revealing galaxies billions of light years away; brown dwarfs, or failed stars; and planet-forming discs around stars.



Have a question about astronomy?
Send it in to Kevin Conod at the address on page 1
or to kdconod@optonline.net
and we'll try to have an answer in the next newsletter.



SKYWATCH

Join us at Riker Hill Park in Livingston for some free stargazing with our telescopes.

ECLIPSE

Sat., November 8

6:00 to 9:00 p.m.

Total eclipse of the Moon, plus Mars and Saturn later in the evening.

For directions, see:

njagweb.tripod.com

Please Note:

Our telescopes cannot see through clouds! Telescopes will be set up only if the weather permits (it is "clear" if you can see the Moon or ten stars). If stargazing needs to be postponed or cancelled, a message will be left at 973-680-8420 after 6:00 p.m. on the evening of the event.

Cosponsored by the Newark Museum and the Essex County Department of Parks.

HERMES IS FOUND

HERMES IS FOUND

After eluding astronomers for 66 years, the long-lost asteroid Hermes has finally been retrieved.

Roger Sinnott, Sky & Telescope

Early on October 15th, Brian A. Skiff (Lowell Observatory Near-Earth Object Search, Arizona) sent measurements of four CCD images obtained with the 23-inch Catalina Schmidt telescope to the Minor Planet Center in Cambridge, Massachusetts. At the center, Timothy B. Spahr identified the suspect with other measurements submitted in the past seven weeks -- but not recognized as unusual -- by LONEOS and by the Lincoln Near Earth Asteroid Research (LINEAR) project in New Mexico. In addition, quick action by James Young (Table Mountain Observatory, California) secured a confirmation just before dawn on the 15th.

Judging by its brightness, Hermes is a minor planet about 1 to 2 kilometers across. So it could be somewhat larger than the 1937 estimates.

Hermes is by no means the last of the "lost asteroids" -- many thousands of others in the Minor Planet Center's database fall in this category because they could not be followed long enough for an accurate orbit to be determined. But Hermes is by far the most famous. It was discovered by Karl Reinmuth at Heidelberg, Germany, on October 28, 1937, and tracked for only five days.

Although never officially numbered, it has been known by the name Hermes ever since.

In late October 2003, Hermes will be bright enough (magnitude 13) to be seen in 8-inch and larger amateur telescopes as it races westward across Cetus, Pisces, and Aquarius. By month's end it will be moving 7 degrees per day and gaining. Unlike the situation in 1937, when Hermes skimmed to within 800,000 km of our planet (two Earth-Moon distances), it will pass about nine times that far on November 4, 2003.

The latest observations allows astronomers to predict future close approaches with great accuracy; we can now predict that Hermes will not approach the Earth any closer than about 0.02 AU (8 times the distance of the Moon) within the next hundred years.

NEWLY FORMED STARS IN THE PELICAN NEBULA

This image of the clouds of gas and dust next to the "neck" and "body" of the Pelican Nebula was taken by the National Science Foundation's Mayall 4-meter telescope at Kitt Peak National Observatory near Tucson, AZ. Filters were used to isolate the red emission lines of hydrogen and singly-ionized sulfur. The image reveals many previously unseen shockwaves, evidence for powerful outflows from newly formed stars embedded within the molecular clouds that rim the nebula.

Intense radiation from several massive stars located just off the image is eroding the surrounding molecular cloud. In regions shadowed by dense clumps of gas and dust, parts of the cold molecular cloud survive to produce the long "pillars" of dusty material. A faint jet squirts out of the tip of one of the pillars, indicating the presence of an unseen protostar. Star formation continues in the dusty and opaque interior of the cloud. An embedded infrared source in the main cloud drives a supersonic outflow into the nebula towards the south. As this chain emerges into the lower density surroundings, it is deflected towards the west, indicating that there is an outflow of plasma from the core of the region. This image reveals about a dozen shockwaves powered by young stars embedded in the clouds adjacent to the nebula. The Pelican-North American nebula complex ("W80") is located a few degrees east of the bright star Deneb in the constellation Cygnus the Swan, about 1,800 light-years distant from Earth. North is up and west is to the right in this image.

This image was produced by an NOAO Survey Program known as the Deep Imaging Survey of Nearby Star-Forming Clouds, which is led by John Bally of the University of Colorado and Bo Reipurth of the University of Hawaii.

Note: the large "donut" in the middle is an artifact of the coma corrector in the KPNO 4m that was not completely removed in the reduction.

For more information on the survey, see: <http://casa.colorado.edu/~bally/>

For a wonderful photo of the Pelican Nebula, please turn to the back cover.

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SKY CALENDAR

November

- 3 Moon near Mars
- 9 Total Lunar Eclipse
- 14 Moon near Pollux (Dawn)
- 18 Leonid Meteor Shower
- 23 Total Solar Eclipse (only visible from Antarctica)
- 25 Moon near Venus

December

- 5 Mercury & Venus close
- 9 Mercury at greatest elongation
- 18 Asteroid Ceres near Pollux
- 22 Winter Solstice (2:04 a.m.)
- 25 Moon near Venus
- 30 Moon near Mars
- 31 Saturn at opposition

Newly formed stars in the Pelican Nebula. See story on page 3

