

North Star Newsletter

October 2011

Volume XI No. 10

NHAC General Meeting

September 23, 2011

NOVICE PROGRAM

“Observing Planets“

by Dr. Aaron Clevenson

6:30 - 7:15 in the building CLA Teaching Theater

MAIN PRESENTATION

Beginning at 7:30 in the building CLA Teaching Theater, featuring:

- NHAC news and announcements
- *“What’s Up Doc?”* by Aaron Clevenson

FEATURED SPEAKER

Dr. Reginald J. Dufour

Professor of Astrophysics

Rice University, Houston, Texas

“The Life and Death of Stars”



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The Deadline for submissions for the
November 2011 newsletter
is October 15, 2011.

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THANK YOU!

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photo credit: Roger Wheatley

At NHAC’s recent August general meeting, Mr. Joe Williams of NASA-JSC, addressed the means of determining orbits of solar system objects, ranging from planets, to space vehicles. Williams reminded the audience that Newtonian and Keplerian laws of motion form the basis of calculations, but he emphasized that observation, modeling and prediction are the vital three steps in orbital work. In an earlier combined advanced and novice session, Williams led a forum, with lively audience participation, on considerations pertinent to the future of NASA.



2012 Board Elections

Elections for club officers are coming up in December! We are always looking for new ideas and new members of the Board. If you are interested in knowing more about opportunities that are available, please contact George Marsden or any of the existing Board Members.

Remember to check out the North Houston Astronomy Club
 Facebook and Twitter pages:



<http://www.facebook.com/NorthHoustonAstronomyClub>



http://www.twitter.com/NHAC_Info



2011 NHAC OFFICERS



2011 Elected Officers

PRESIDENT

Bruce Pollard

president@astronomyclub.org

WEBMASTER

Ed Knapton

webmaster@astronomyclub.org

VICE PRESIDENT

Aaron Clevenson

vicepresident@astronomyclub.org

ALCOR

Jim Barbasso

alcor@astronomyclub.org

SECRETARY

Susan Pollard

secretary@astronomyclub.org

OBSERVATION COMMITTEE CHAIRPERSON

****open****

observation@astronomyclub.org

TREASURER

Mary Moore

treasurer@astronomyclub.org

MEMBERSHIP COMMITTEE CHAIRPERSON

Bruce Pollard/Stuart Davenport

membership@astronomyclub.org

EDITOR

Jamie Martin

newsletter@astronomyclub.org

PROGRAM COMMITTEE CHAIRPERSON

George Marsden

program@astronomyclub.org

“It is the chiefest point of happiness that a man is willing to be what he is.”
Desiderius Erasmus (1466 - 1536)

NHAC is a proud member of:



News and Tidbits

Astronomy Day is October 8th!

Make plans to attend **Astronomy Day at the Houston Museum of Natural Science's George Observatory in Brazos Bend State Park**. This annual October event is free (you will just need to pay the **state park admission fee**), open to the public and includes activities for all ages. Festivities begin in the afternoon, but this event really comes to life after dark when the stars begin to shine. Dozens of telescopes - including our large research telescopes - will be available to give everyone a chance to enjoy the delights of the night sky, including star clusters, planets and galaxies. Please visit **Astronomy Day website** for more info.

Upcoming Star Parties

The 28th Annual **Eldorado Star Party** will be held October 24 - 30, 2011 at the X Bar Ranch Nature Retreat in Eldorado, Texas. For more information and registration go to the **Eldorado website**.

Got a Favorite Piece of Equipment?

If you have a favorite piece of equipment, a novel way of solving a problem, or a shortcut for making observing easier, bring it to the monthly meeting for the **"Show-And-Tell"** segment. Each presentation should take about 3 - 5 minutes and all ideas are welcome. Please submit your idea to Program Committee Chair, George Marsden at program@astronomyclub.org before the next meeting so that he can reserve a spot for your presentation.

Special Club Rate Magazine Subscriptions

Club rates for personal subscriptions to ASTRONOMY and SKY & TELESCOPE magazines save about 25% over the normal subscription costs. Each magazine has its own procedure to subscribe based upon initiating the order through the club treasurer.

For ASTRONOMY magazine, write your check to NHAC (or pay in cash) for \$34 (or \$60 for 2 years). The Treasurer then validates your membership by writing a club check for the same amount to the magazine and sending them your address. Renewals must also be processed through the club. Please save your renewal documents for this process.

For SKY & TELESCOPE, pay the club \$33 (or \$32.95 if by check). As above, we write a club check to validate your membership and start your subscription. SKY & TELESCOPE renewals are processed directly by the subscriber.

Be sure to include a clearly printed name and address sheet for any new subscriptions.

Upcoming NHAC Events

October 21, 2011 - Orionids Meteor Peak at the O'Brien dark site

October 22, 2011 - Meteor Party at White Eagle Lodge - **more Orionids!**

October 29, 2011 - BBQ at O'Brien dark site - **bring friends and family!**



NASA Space Telescope Finds Fewer Asteroids Near Earth

by Whitney Clavin and Dwayne Brown



New Model
~20,500

Old Model
~36,000

New observations by NASA's Wide-field Infrared Survey Explorer, or WISE, show there are significantly fewer near-Earth asteroids in the mid-size range than previously thought. The findings also indicate NASA has found more than 90 percent of the largest near-Earth asteroids, meeting a goal agreed to with Congress in 1998.

Astronomers now estimate there are roughly 19,500 -- not 35,000 -- mid-size near-Earth asteroids. Scientists say this improved understanding of the population may indicate the hazard to Earth could be somewhat less than previously thought. However, the majority of these mid-size asteroids remain to be discovered. More research also is needed to determine if fewer mid-size objects (between 330 and 3,300-feet wide) also mean fewer potentially hazardous asteroids, those that come closest to Earth.

The results come from the most accurate census to date of near-Earth asteroids, the space rocks that orbit within 120 million miles (195 million kilometers) of the sun into Earth's orbital vicinity. WISE observed infrared light from those in the middle to large-size category. The survey project, called NEOWISE, is the asteroid-hunting portion of the WISE mission. Study results appear in the *Astrophysical Journal*.

"NEOWISE allowed us to take a look at a more representative slice of the near-Earth asteroid numbers and make better estimates about the whole population," said Amy Mainzer, lead author of the new study and principal investigator for the NEOWISE project at NASA's Jet Propulsion Laboratory in Pasadena, Calif. "It's like a population census, where you poll a small group of people to draw conclusions about the entire country."

WISE scanned the entire celestial sky twice in infrared light between January 2010 and February 2011, continuously snapping pictures of everything from distant galaxies to near-Earth asteroids and comets. NEOWISE observed more than 100 thousand asteroids in the main belt between Mars and Jupiter, in addition to at least 585 near Earth.

Continued from page 7

WISE captured a more accurate sample of the asteroid population than previous visible-light surveys because its infrared detectors could see both dark and light objects. It is difficult for visible-light telescopes to see the dim amounts of visible-light reflected by dark asteroids. Infrared-sensing telescopes detect an object's heat, which is dependent on size and not reflective properties.

Though the WISE data reveal only a small decline in the estimated numbers for the largest near-Earth asteroids, which are 3,300 feet (1 kilometer) and larger, they show 93 percent of the estimated population have been found. This fulfills the initial "Spaceguard" goal agreed to with Congress. These large asteroids are about the size of a small mountain and would have global consequences if they were to strike Earth. The new data revise their total numbers from about 1,000 down to 981, of which 911 already have been found. None of them represents a threat to Earth in the next few centuries. It is believed that all near-Earth asteroids approximately 6 miles (10 kilometers) across, as big as the one thought to have wiped out the dinosaurs, have been found.

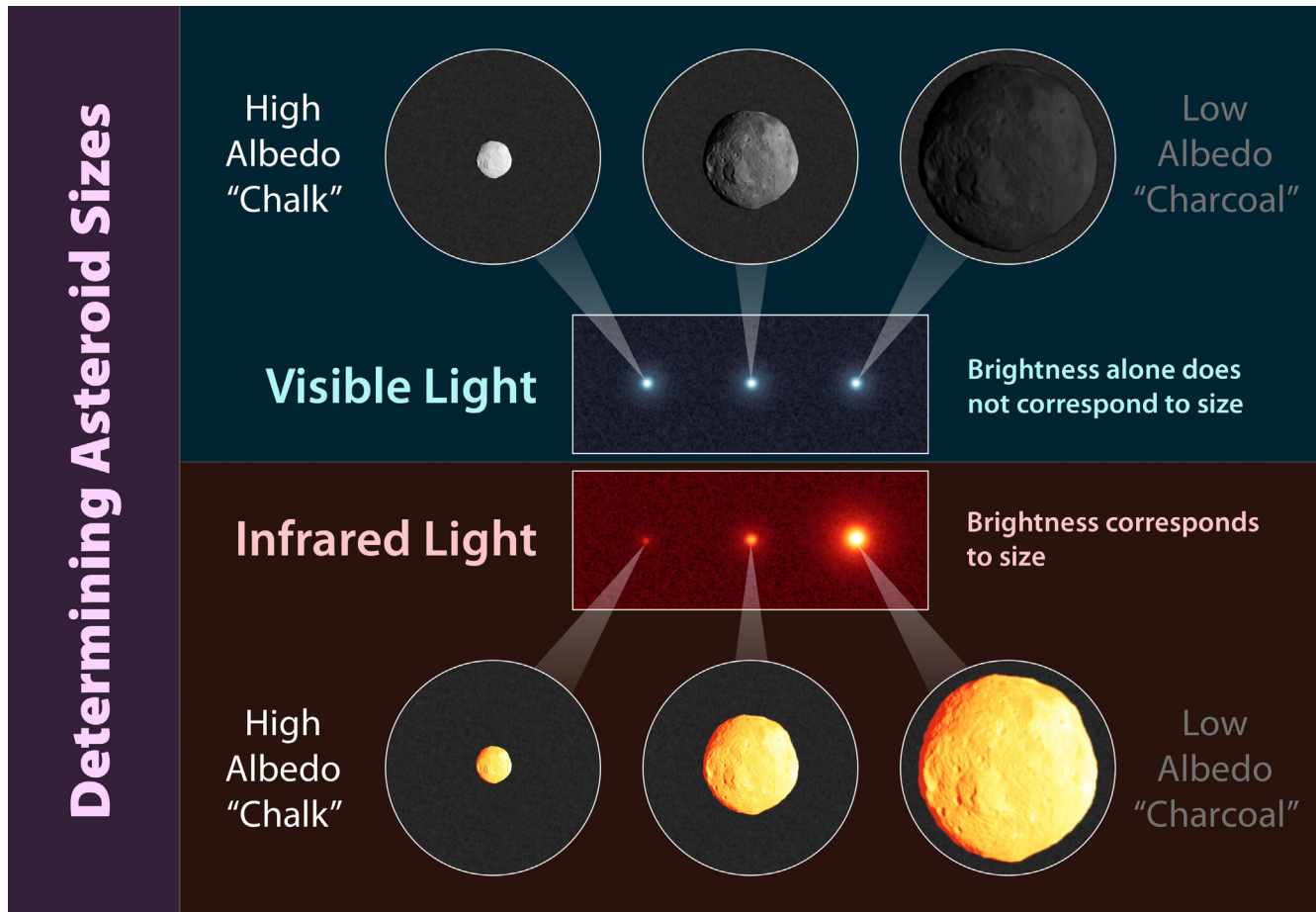
"The risk of a really large asteroid impacting the Earth before we could find and warn of it has been substantially reduced," said Tim Spahr, the director of the Minor Planet Center at the Harvard Smithsonian Center for Astrophysics in Cambridge, Mass.

The situation is different for the mid-size asteroids, which could destroy a metropolitan area if they were to impact in the wrong place. The NEOWISE results find a larger decline in the estimated population for these bodies than what was observed for the largest asteroids. So far, the Spaceguard effort has found and is tracking more than 5,200 near-Earth asteroids 330 feet or larger, leaving more than an estimated 15,000 still to discover. In addition, scientists estimate there are more than a million unknown smaller near-Earth asteroids that could cause damage if they were to impact Earth.

"NEOWISE was just the latest asset NASA has used to find Earth's nearest neighbors," said Lindley Johnson, program executive for the Near Earth Object Observation Program at NASA Headquarters in Washington. "The results complement ground-based observer efforts over the past 12 years. These observers continue to track these objects and find even more."

WISE is managed and operated by JPL for NASA's Science Mission Directorate in Washington. The principal investigator, Edward Wright, is at the University of California, Los Angeles. The WISE science instrument was built by the Space Dynamics Laboratory in Logan, Utah, and the spacecraft was built by Ball Aerospace and Technologies Corp. in Boulder, Colo. Science operations and data processing occur at the Infrared Processing and Analysis Center at the California Institute of Technology.

For more information about the mission, visit: <http://www.nasa.gov/wise> .



This chart illustrates how infrared is used to more accurately determine an asteroid's size.
Image credit: NASA/JPL-Caltech

Observing Tip: Binocular Double Star Club

by Sue Wheatley
Master Observer, Certificate #21

I've been hauling (read: Roger has been hauling) heavy astro equipment around the field for a long time. A new Observing Club, the Binocular Double Star Club, has convinced me to take only a nice chair, a pair of binoculars, a planisphere, thermos of coffee, and maybe a chart or two, into the field for a while.

To see the requirements for this club, go to www.astroleague.org. On the righthand panel, choose "Observing Clubs". On the new page, click on "Listing of Clubs Showing Observers Level." The first entry on the Listing page will be the new Binocular Double Star Club. Get the list of pairs from that page, and you are on your way.

Simple, straightforward, and a "do anywhere" kind of program. Sounds like a winner to me.

Observation Sites

O'Brien Observing Site

Have you been to O'Brien site yet? This is a new location that is available to NHAC members. It has open fields with a treed horizon in all directions at 5 degrees and is located in Montgomery, Texas (heading west on Highway 105)

If you would like to use this site in the future, please read the use policy on the NHAC web page (click on the "Star Party!" link from the Home page), and please follow this process:

- Tim and Wanda O'Brien and their family are our hosts. They are on Netslyder, the email list server.
- To request use of the site, send an email out on Netslyder to: NHAC@mail.netslyder.net (you must already be a member of the Netslyder mailing list)
- Requests must be made more than 24 hours in advance.
- Wanda or Tim will reply on Netslyder to let you know it is ok.
- Other members are welcome to also attend that night. Once approved, another request is not necessary at that point.
- The site is open to members and their guests (only when the member is present).

If you have any questions, please contact Aaron Clevenson, directly, at aaron@clevenson.org



Observation Sites

White Eagle Lodge (WEL) Monthly Star Parties

Come on out for Socializing and Stargazing!

Mark these dates on your calendar for future NHAC Star Parties at The White Eagle Lodge (WEL):

October 22, 2011

December 17, 2011

November 26, 2011

**These dates are tentative and subject to change.*

Rules and Directions are available online at www.astronomyclub.org.



The Insperty Observatory at Humble ISD



The Insperty Observatory at Humble ISD, 2505 S. Houston Ave., Humble, TX 77396 281-641-STAR

Upcoming Public Nights at the Observatory*

October 14, 2011 @ 7:00 p.m.

November 11, 2011 @ 5:30 p.m.

December 2, 2011 @ 5:30 p.m.

**Dates and times are subject to change.*

Refreshment Committee Chairman Needed

Your hungry club members need YOU! Yes, YOU!!

Have you been thinking about getting more involved with the club, but weren't quite sure what to do? Well, this would be a great way to help out! We are looking for someone to be in charge of the meeting refreshments each month.

Your job would be to see that the refreshments are ordered, picked up and delivered to the meeting each month. They would need to be set up prior to the meeting and taken down after the meeting. You would also need to see that all of the necessary utensils were kept on hand.

As Chairman, you may choose to delegate this monthly, or handle it yourself with a few bodyguards. :)



Position: Available immediately

Salary: We will pay you on Tuesday for the hamburger today

Satisfaction: Priceless

Contact board@astronomyclub.org

**We need YOU!!
Step on up!!**

About NHAC

The North Houston Astronomy Club (NHAC), was formed for educational and scientific purposes, for people of all races, creeds, ethnic backgrounds and sex, for the primary purpose of developing and implementing programs designed to increase the awareness and knowledge of astronomy, especially for those living near the north side of Houston Texas.

NHAC is a non-profit organization dedicated to providing the opportunity for all individuals to pursue the science of astronomy, by observing in a dark-sky site, learning the latest technology, and sharing their knowledge and experience. Thus, our “Observe-Learn-Share” motto.

North Houston Astronomy Club is Sponsored by:



Membership Benefits

- Loaner telescopes
- Borrow from the NHAC “Library”
- Observe from Dark Sky Observing Sites
- Learn from experienced amateur astronomers
- Share your knowledge at club hosted picnics and star parties
- Discount magazine subscriptions (contact our Treasurer)
- Includes membership in the Astronomical League
- The quarterly Astronomical League magazine “Reflector”
- Eligibility for NHAC Executive Board

www.astronomyclub.org
www.nhac.info

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