

North Star Newsletter

June 2011

Volume XI No. 6

NHAC General Meeting

May 27, 2011

NOVICE PROGRAM

“Binocular Observing“

By Brad Hurley

6:30 - 7:15 in CLA 221, The Cosmic Forum

MAIN PRESENTATION

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

- NHAC news and announcements
- “What’s Up Doc?” by Aaron Clevenson
- “Professor Comet Report” by Justin McCollum
- Show and Tell



FEATURED SPEAKER

Bill Leach

“December 21, 2012 - The End of the World:
A Scientific Perspective”

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The Deadline for submissions for the July 2011 newsletter
is June 15, 2011.



2011 NHAC OFFICERS



2011 Elected Officers

PRESIDENT

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EDITOR

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PROGRAM COMMITTEE CHAIRPERSON

George Marsden

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“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

Upcoming Star Parties

The Texas Star Party is just about here!! It will be held May 29 - June 5, 2011 at the Prude Ranch near Fort Davis, Texas. The Texas Star Party website has posted this in response to inquiries about the recent wildfires: "Recent wildfires in area will not alter our plans to hold TSP on schedule. The latest reports indicate that while the State Park and Ft Davis have been impacted by the fires, you cannot see any burned land in any direction from the Ranch, except the top of Casket Mtn 2 miles NE. [new site]". For more information, go to their website at: www.texasstarparty.org

The **Okie-Tex Star Party** will be held September 24 - October 2, 2011 at Camp Billy Joe in the Black Mesa Area of Oklahoma. For more information and registration go to their website at: www.okie-tex.com/index.php

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 their website at www.texasstarparty.org/eldorado.html

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.

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



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



http://www.twitter.com/NHAC_Info

NASA Telescope Helps Confirm Nature of Dark Energy

by Whitney Calvin and Trent Perrotto

May 19 2011

PASADENA, Calif. -- A five-year survey of 200,000 galaxies, stretching back seven billion years in cosmic time, has led to one of the best independent confirmations that dark energy is driving our universe apart at accelerating speeds. The survey used data from NASA's space-based Galaxy Evolution Explorer and the Anglo-Australian Telescope on Siding Spring Mountain in Australia.

The findings offer new support for the favored theory of how dark energy works -- as a constant force, uniformly affecting the universe and propelling its runaway expansion. They contradict an alternate theory, where gravity, not dark energy, is the force pushing space apart. According to this alternate theory, with which the new survey results are not consistent, Albert Einstein's concept of gravity is wrong, and gravity becomes repulsive instead of attractive when acting at great distances.

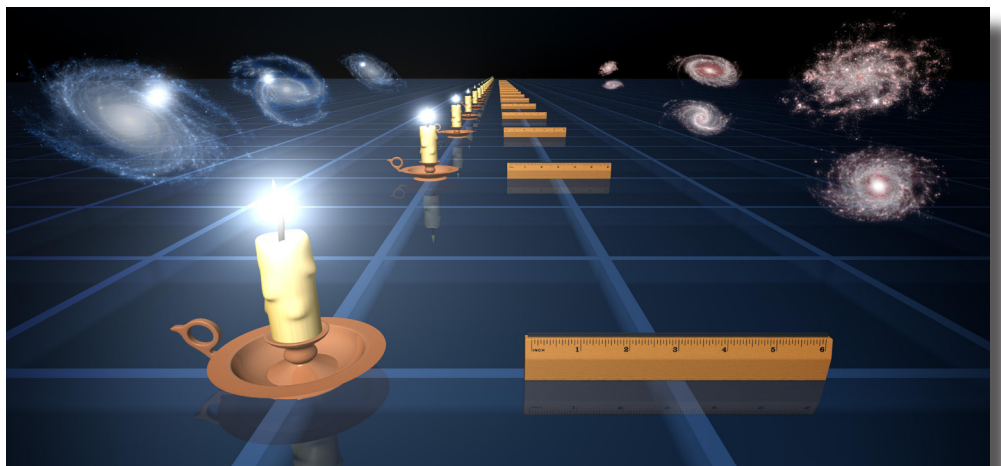
"The action of dark energy is as if you threw a ball up in the air, and it kept speeding upward into the sky faster and faster," said Chris Blake of the Swinburne University of Technology in Melbourne, Australia. Blake is lead author of two papers describing the results that appeared in recent issues of the Monthly Notices of the Royal Astronomical Society. "The results tell us that dark energy is a cosmological constant, as Einstein proposed. If gravity were the culprit, then we wouldn't be seeing these constant effects of dark energy throughout time."

Dark energy is thought to dominate our universe, making up about 74 percent of it. Dark matter, a slightly less mysterious substance, accounts for 22 percent. So-called normal matter, anything with atoms, or the stuff that makes up living creatures, planets and stars, is only approximately four percent of the cosmos.

The idea of dark energy was proposed during the previous decade, based on studies of distant exploding stars called supernovae. Supernovae emit constant, measurable light, making them so-called "standard candles," which allows calculation of their distance from Earth. Observations revealed dark energy was flinging the objects out at accelerating speeds.

Dark energy is in a tug-of-war contest with gravity. In the early universe, gravity took the lead, dominating dark energy. At about 8 billion years after the Big Bang, as space expanded and matter became diluted, gravitational attractions weakened and dark energy gained the upper hand.

Billions of years from now, dark energy will be even more dominant. Astronomers predict our universe will be a cosmic wasteland, with galaxies spread apart so far that any intelligent beings living inside them wouldn't be able to see other galaxies.



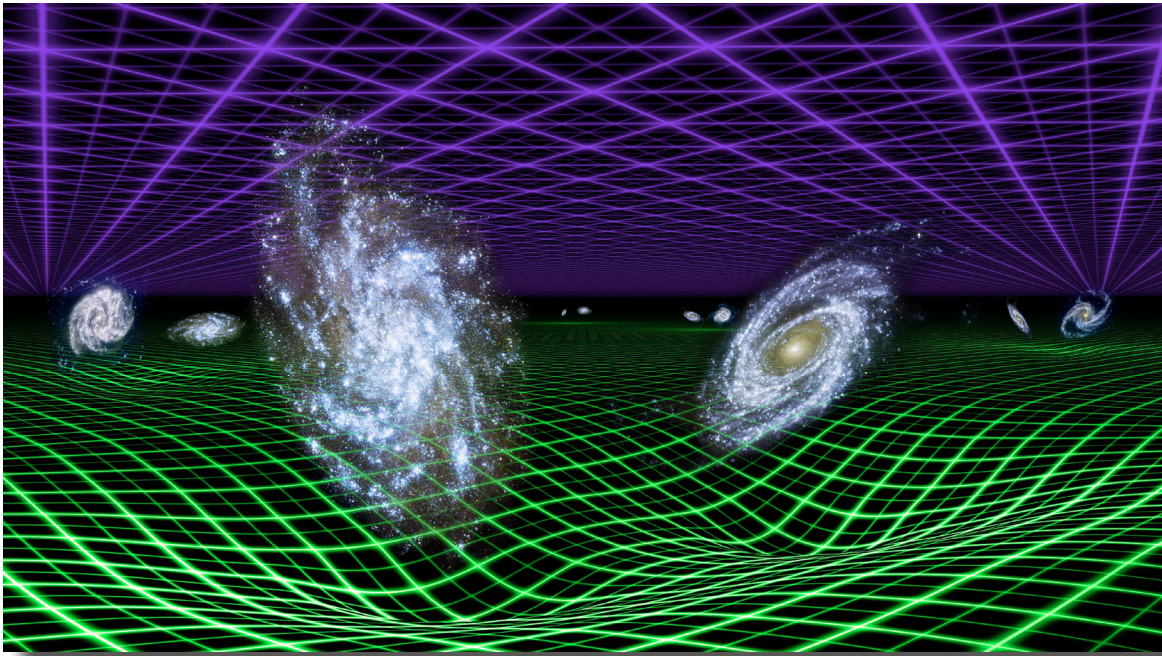


Image Credit: NASA/JPL-Caltech

The new survey provides two separate methods for independently checking the supernovae results. This is the first time astronomers performed these checks across the whole cosmic timespan dominated by dark energy. The team began by assembling the largest three-dimensional map of galaxies in the distant universe, spotted by the Galaxy Evolution Explorer. The ultraviolet-sensing telescope has scanned about three-quarters of the sky, observing hundreds of millions of galaxies.

“The Galaxy Evolution Explorer helped identify bright, young galaxies, which are ideal for this type of study,” said Christopher Martin, principal investigator for the mission at the California Institute of Technology in Pasadena. “It provided the scaffolding for this enormous 3-D map.”

The astronomers acquired detailed information about the light for each galaxy using the Anglo-Australian Telescope and studied the pattern of distance between them. Sound waves from the very early universe left imprints in the patterns of galaxies, causing pairs of galaxies to be separated by approximately 500 million light-years.

This “standard ruler” was used to determine the distance from the galaxy pairs to Earth -- the closer a galaxy pair is to us, the farther apart the galaxies will appear from each other on the sky. As with the supernovae studies, this distance data were combined with information about the speeds at which the pairs are moving away from us, revealing, yet again, the fabric of space is stretching apart faster and faster.

The team also used the galaxy map to study how clusters of galaxies grow over time like cities, eventually containing many thousands of galaxies. The clusters attract new galaxies through gravity, but dark energy tugs the clusters apart. It slows down the process, allowing scientists to measure dark energy’s repulsive force.

“Observations by astronomers over the last 15 years have produced one of the most startling discoveries in physical science; the expansion of the universe, triggered by the Big Bang, is speeding up,” said Jon Morse, astrophysics division director at NASA Headquarters in Washington. “Using entirely independent methods, data from the Galaxy Evolution Explorer have helped increase our confidence in the existence of dark energy.”

NHAC 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:

June 4, 2011

July 2, 2011

July 30, 2011

August 27, 2011

September 24, 2011

October 22, 2011

November 26, 2011

December 17, 2011

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

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



The Administaff/Insperity Observatory at Humble ISD



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

Upcoming Public Nights at the Observatory*

June 10, 2011 @ 8:30 pm
July 8, 2011 @ 8:30 pm
August 12, 2011 @ 8:00 pm
September 9, 2011 @ 7:30 pm
October 14, 2011 @ 7:00 pm
November 11, 2011 @ 5:28 am

**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@astronomy.club.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

North Houston Astronomy Club

c/o Bill Leach

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Observe - Learn - Share

