



UNH Astronomy Lecture Nov. 7 Highlights NASA Mission Discoveries

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DURHAM, N.H. – On Saturday, Nov. 7, 2009, the University of New Hampshire physics department will present "Astronomy with Neutral Atoms: IBEX Catches the Interstellar Wind and Images the Solar System Boundary" – the third in a series of weekend lectures given by UNH faculty, staff, and students to promote interest in the field of astronomy and celebrate 2009 as the International Year of Astronomy (IYA).

Professor Eberhard Möbius, UNH physics professor and chair and co-investigator on NASA's Interstellar Boundary Explorer (IBEX) mission, will provide an overview of the just-announced discoveries from the satellite, which include a gigantic "ribbon" of energy at the very edge of the solar system some 10 billion miles from Earth. IBEX was launched October 19, 2008 and carries two ultra-high sensitivity cameras containing important components designed and built at UNH.

Four hundred years after Galileo pointed a telescope at celestial objects for the first time, astronomers have now added neutral atoms (along with electromagnetic radiation from radio waves to visible light to X-rays) to the astronomical toolbox for creating images of the heavens.

IBEX's two energetic neutral-atom cameras have taken the first global images of the solar system boundary with its neighborhood and are "catching" the interstellar wind comprised of neutral hydrogen, helium, and oxygen atoms. The wind, which arises from the Sun's motion through the neighboring interstellar gas cloud, blows through the solar system at a speed of 60,000 miles per hour.

The Sun's heliosphere surrounds our solar system like a giant bubble protecting us against high-energy cosmic rays from distant regions in the Milky Way. IBEX's cameras are also returning stunning images of the heliospheric boundary region – where the solar wind is slowed down by the interstellar medium – with bright features that nobody had predicted.

The mission's exciting results will revolutionize our understanding of the Sun's interaction with its galactic neighborhood and of the heliosphere's ability to shield the solar system. The bright ribbon can be read like a compass, which shows the direction of the previously inaccessible magnetic field outside the solar system.

Notes Möbius, "Today, about 50 years after the beginning of the space age, humankind is able 'stick its head out' of our heliosphere, get an idea what our galactic neighborhood is like, and see how it shapes the protective bubble that surrounds us."

The IYA talks are held on Saturdays from 3 to 4 p.m. in DeMeritt Hall, room 112, on the UNH campus in Durham. The lectures are free and open to the public and each date will correspond with free public viewings at the UNH Observatory later that evening, weather permitting.

United Nations Educational, Scientific and Cultural Organization (UNESCO) and the International Astronomical Union (IAU) declared 2009 to be the IYA in recognition of Galileo's observation of the heavens 400 years ago, which ushered in the age of modern observational astronomy.

For more information on the UNH lecture series visit http://physics.unh.edu/observatory/IYA_lectures.html and for more on the IYA visit <http://astronomy2009.nasa.gov>. The first results from the IBEX mission are featured on the IBEX website: <http://ibex.swri.edu>

The University of New Hampshire, founded in 1866, is a world-class public research university with the feel of a New England liberal arts college. A land, sea, and space-grant university, UNH is the state's flagship public institution, enrolling 12,200 undergraduate and 2,200 graduate students

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The International Year of Astronomy logo is available to download:
http://www.unh.edu/news/cj_nr/2009/sept/iya_logo_lg.jpg