

## UNH Hosts National Symposium on Gamma Ray Astronomy

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UNH News Bureau

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DURHAM, N.H. -- The University of New Hampshire hosts gamma-ray astronomers from around the world Sept. 15-17.

Scientists from the UNH Institute for the Study of Earth, Oceans and Space (EOS) and other institutions attending the 5th Compton Symposium on Gamma-Ray Astronomy will present findings and theories stemming from the Compton Gamma Ray Observatory (CGRO) and other high-energy telescopes.

Presentations include new work on black holes, gamma ray bursts and supernova remnants and preparations for the upcoming solar maximum, a year-long period of increased solar activity.

The meeting at the Sheraton Harborside Hotel in nearby Portsmouth is hosted by EOS and by the National Aeronautics and Space Administration Goddard Space Flight Center's CGRO Science Support Center. More than 200 researchers are expected to attend.

Gamma rays occupy the highest energy range in the electromagnetic spectrum, well beyond visible light, ultraviolet and X-rays. They are produced by extreme forces of energy and by nuclear decay (radioactivity). Although gamma-ray astronomy is only 40 years old, the field has made major advances in instrument development and the observation of highly energetic phenomena.

Invited speakers to the symposium include Re'em Sari of California Institute of Technology, who will discuss possible origins of gamma ray bursts. These mysterious bursts outshine the entire universe in the few seconds they glow. Although telescopes now detect one or two bursts a day, the intense gamma ray radiation is difficult to observe because it appears without warning from any direction and lasts for such a short period of time.

Other meeting highlights include the revelation that the gamma rays emanating from the galactic center may actually originate from an exploding star that ventured too close to a supermassive black hole. Also presented is the long-awaited release of the COMPTEL source catalogue, which is a list of the 63 gamma-ray sources

detected by the COMPTEL instrument on CGRO, and several presentations on the relationship between supernova remnant shock waves and cosmic ray origin.

CGRO comprises four instruments: the Burst And Transient Source Experiment (BATSE), Oriented Scintillation Spectrometer Experiment (OSSE), Imaging Compton Telescope (COMPTEL), and Energetic Gamma Ray Experiment Telescope (EGRET). Together, they cover a range of the electromagnetic spectrum millions of times wider than the band of visible light, from red to violet. CGRO is the second of NASA's Great Observatories and the gamma-ray equivalent to the Hubble Space Telescope and the recently-launched Chandra X-ray Observatory. Compton was launched aboard the Space Shuttle "Atlantis" in April, 1991, and at 17 tons, it was the largest astrophysical payload ever flown at that time.

The symposium itself is the fifth in a series of international symposia dedicated to research in gamma-ray astronomy with an emphasis on results from CGRO. This year's Compton Symposium is preceded by the Teacher Workshop on Astronomy Education, aimed at educators for 5th through 12 grade, on Sept. 14.

For more information, visit the conference web site at <http://www.gro.unh.edu/compton5/>.

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