WEEKLY CALENDAR

28 March 2005

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General Seminar:

3:40PM / Thursday, 31 March 2005 / Room 109, Nicholson Hall

Host: Dr. Michael Cherry

[Refreshments served at 3:15 PM in Room 229, Nicholson Hall]

"GLAST: Exploring the High Energy Gamma-Ray Universe"

Julie McEnery
NASA Goddard Space Flight Center

Abstract

The high energy gamma-ray sky (above 30 MeV) has been relatively poorly studied. Most of our current knowledge comes from observations made by the EGRET detector on CGRO, which revealed that the the GeV gamma-ray sky is rich and vibrant. It found that the luminosities of many objects peak in this energy band, that the spectra of gamma-ray bursts extends to at least GeV energies, and that intense gamma-ray flares are a common feature of many gamma-ray sources.

Studies of astrophysical objects at GeV energies are interesting for several reasons: The high energy gamma-rays are often produced by a different physical process than the better studied X-ray and optical emission, thus providing unique information for understanding these sources. Production of such high-energy photons requires that charged particles are accelerated to equally high energies, or much greater. Thus gamma-ray astronomy is the study of extreme environments with natural and fundamental connections to cosmic-ray and neutrino astrophysics.

The Gamma-ray Large Area Space Telescope, GLAST, is a satellite-based experiment to measure the cosmic gamma-ray flux in the energy range 20 MeV to >300 GeV. With a sensitivity that is more than a factor 30 greater than that of the EGRET detector on CGRO and greatly enhanced observing flexibility, GLAST will open a new avenue to study our Universe as well as to answer scientific questions EGRET observations have raised.

Welcome To:

Dr. Blair Smith, a Senior Postdoctoral Researcher,
with Dr. Kenneth Matthews. Dr. Smith is located in Room 459; his phone number is 8-4289.

Publications:

"Low-Temperature Susceptibility of the Noncentrosymmetric Superconductor $CePt_3Si$." **D.P. Young, M. Moldovan, X.S. Wu,** and **P.W. Adams**. *Phys. Rev. Lett.* 94, 107001-[4] (March 2005).

"Numerical Examination of an Evolving Black String Horizon." David Garfinkle, **Luis Lehner,** and Frans Pretorius. *Phys. Rev. D.* 0604009-[6] (March 2005).