

SPACE AND COSMIC RAY PHYSICS SEMINAR

University of Maryland
Computer & Space Sciences Building, Room 2400
4:30 PM Monday, November 1, 2004
Coffee, Tea & Cookies 4:00-4:30 PM

Hoseok Ahn

Institute for Physical Science and Technology
University of Maryland

The Energy Spectra of Protons and Helium Measured with the ATIC Experiment

The Advanced Thin Ionization Calorimeter (ATIC) balloon experiment is designed to investigate the composition and energy spectra of cosmic rays at the highest energies currently accessible by direct measurements, i.e. the region up to 100 TeV. The instrument consists of a silicon matrix for charge measurement, a graphite target (0.75 nuclear interaction length) to induce hadronic interactions, 3 scintillator strip hodoscopes for triggering and trajectory reconstruction, and a BGO crystal calorimeter (18 radiation lengths) to measure the particle energies. ATIC has had two successful Long Duration Balloon flights from McMurdo, Antarctica: one from 12/28/00 to 01/13/01 and the other from 12/29/02 to 01/18/03. We present the energy spectra of protons and helium extracted from the first ATIC flight, over the energy range from 100 GeV to 100 TeV, and compare them with the results from other experiments at both the lower and higher energies.

<http://space.umd.edu/seminars>

Sponsored by: Department of Physics and the Institute for Physical Science and Technology, University of Maryland. For information call Matthew Hill at (301) 405-6237 or go to the website given above. (A PDF file of this announcement is available for download and posting it at your institution is encouraged and appreciated.)

For free parking please park in lot DD or anywhere on levels 1-2 in lot B (the big parking garage) after 4:00 pm. Make sure that you park in a spot WITHOUT a parking meter. More parking information is at the website.