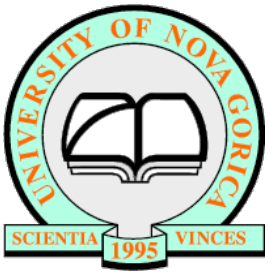

Graduate Physics Seminar
Wednesday, 8 June 2011 from 3 PM
University of Nova Gorica, Ajdovščina site
Auditorium

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PAMELA - Five Years of Cosmic Ray Observation from the Space

Abstract

On the 15th of June 2006, the PAMELA satellite-borne experiment was launched from the Baikonur cosmodrome and it has been collecting data since July 2006. The apparatus comprises a time-of-flight system, a silicon-microstrip magnetic spectrometer, a silicon-tungsten electromagnetic calorimeter, an anticoincidence system, a shower tail counter scintillator and a neutron detector. The combination of these devices allows precision studies of the charged cosmic radiation to be conducted over a wide energy range (100 MeV - 100's GeV) with high statistics. The primary scientific goal is the measurement of the anti-proton and positron energy spectrum in order to search for exotic sources, such as dark matter particle annihilations. PAMELA is also testing cosmic-ray propagation models through precise measurements of the antiparticle energy spectrum and precision studies of light nuclei and their isotopes. Moreover, PAMELA is investigating phenomena connected with solar and earth physics. Latest results after five years of data-taking will be presented.