

Relevance of precision measurements of charged cosmic rays (100 MeV - 1 TeV) with the space experiment Pamela in solar, galactic and high energy physics

Tuesday, 3 June 2014 14:30 (1 hour)

The Pamela spectrometer was launched in 2006 from the cosmodrome of Baikonur, Kazakhstan, on board the Russian satellite Resurs-DK1. Since then, it has been collecting cosmic rays from its 70 degrees inclination, 600 km altitude polar orbit. This orbit allows to sample particles of trapped, semi-trapped nature in the Earth geomagnetosphere, of solar origin (emitted in solar particle events), of galactic origin (modulated by solar activity). Antiparticles of galactic origin can constrain and provide information on the dark matter component in the galaxy. Furthermore the Proton and Helium spectra provide detail information on the acceleration and propagation processes in the galaxy. In this talk we will discuss some of these recent results of Pamela and the relevance for cosmic ray physics.

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