

Measurement of solar cosmic rays at 1 AU with PAMELA experiment

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The PAMELA experiment is a multi-purpose apparatus built around a permanent magnet spectrometer, with the main goal of studying in detail the antiparticle component of cosmic rays. The apparatus will be carried in space by means of a Russian satellite, due to launch in the first half of 2006, for a three year-long mission. The complexity of the instrument, alongside the long lifetime of the mission and the orbital characteristics of the satellite, will allow to address several items of cosmic-ray physics such as: the role of grand unified theories in cosmology in relation to antimatter and dark matter, the understanding of the acceleration and propagation of cosmic rays, the role of solar, terrestrial and heliospherical relationships to energetic particles propagation in the heliosphere.

In this work we will focus on the solar and heliospheric observation capabilities of PAMELA.