

Solar modulation of galactic cosmic ray protons electrons and positrons over the 23rd solar minimum with the PAMELA experiment

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The satellite-borne PAMELA experiment has been continuously collecting data since it was launched on 15th June 2006, from the Baikonur cosmodrome. The instrument, particularly suited for particle and antiparticle identification, has detected the charged component of cosmic rays over a wide energy range and with unprecedented statistics. The instrumental characteristics and the quasi-polar orbit, with an inclination of 70 degrees, allowed to measure charged particles down to few tens of MeV. In particular, the time variation of galactic proton, electron and positron spectra has been measured at Earth extending down to about 80 MeV, 70 MeV and 200 MeV respectively and up to about 50 GeV. The time and energy dependence of these fluxes has been studied during the A<0 solar minimum of solar cycle 23, from 2006 to 2009, providing important information on the propagation mechanisms of charged cosmic rays in the heliosphere and allowing to investigate charge dependent solar modulation effects.

Presentation type

Section talk (10+5 min)

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