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In-orbit studies of trigger-related activity in the PAMELA anticoincidence system

Abstract content

The PAMELA space experiment was launched into orbit on June 15th from the Baikonur Cosmodrome, Kazakhstan, on-board a Resurs-DK1 satellite. The primary objective for PAMELA is to accurately measure the antiproton (80 MeV - 190 GeV) and positron (50 MeV - 270 GeV) component of the cosmic radiation. PAMELA consists of a permanent magnet spectrometer, a time-of-flight system, an electromagnetic calorimeter, a neutron detector and an anticoincidence system. The latter is built from plastic scintillators which are read out by photomultipliers and is used to help discriminate against triggers generated by out of acceptance events. The performance of the anticoincidence system in correlation with activity measured in the calorimeter and the spectrometer is evaluated using data from the six first months of PAMELA operations in-orbit. In particular, the anticoincidence activity for hadron-like and lepton-like events is studied as a function of reconstructed rigidity, as measured by the spectrometer.

If this papers is presented for a collaboration, please specify the collaboration

on behalf of the PAMELA collaboration

Summary

Reference

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