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In-orbit counting rates measured by the PAMELA anticoincidence system

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Abstract content

PAMELA is a satellite-borne experiment designed to study the charged component of the cosmic radiation of galactic, solar and trapped nature. The main scientific objective is the study of the antimatter component of cosmic rays over a wide range of energies. PAMELA is mounted on the Resurs DK1 satellite that was launched on June 15th 2006 from the Baikonur cosmodrome and is now on a semipolar ($70°$) elliptical (350×600 km^2) orbit. The PAMELA apparatus consists of a permanent magnet silicon spectrometer, an electromagnetic imaging calorimeter, a time of flight system, a scintillator-based anticoincidence (AC) system, a tail catcher scintillator and a neutron detector. The AC system can be used to reject particles not cleanly entering the PAMELA acceptance. A standalone study of the functionality of the AC system during in-flight operations is presented. The in-orbit particle rates measured by the AC system during the first 6 months of operation are shown. The orbital dependence of the particle rates, the energy and the directionality of the trapped particles are also discussed.

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

PAMELA collaboration

Summary

Reference

Proceedings of the 30th International Cosmic Ray Conference; Rogelio Caballero, Juan Carlos D'Olivo, Gustavo Medina-Tanco, Lukas Nellen, Federico A. Sánchez, José F. Valdés-Galicia (eds.); Universidad Nacional Autónoma de México, Mexico City, Mexico, 2008; Vol. 2 (OG part 1), pages 95-98

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