

## Seven Years of Cosmic Ray Observations with the Pamela Space Experiment

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**Abstract:** Launched on June 15th 2006 on board the Russian ResursDK1 satellite, the Pamela cosmic ray Observatory has shown, in seven years of operation, very interesting features in cosmic rays, namely in the fluxes of protons, helium and electrons, that might change our basic vision of the mechanisms of production, acceleration and propagation of cosmic rays in the Galaxy. Furthermore, PAMELA measurements of cosmic antiproton and positron fluxes and positron to electron ratio have been setting strong constraints to the nature of Dark Matter. The continuous particle detection is allowing a constant monitoring of the solar activity and detailed study of the solar modulation for a long period, giving important improvements to the comprehension of the heliosphere mechanisms. PAMELA is also measuring the radiation environment around the Earth, and has discovered an antiproton radiation belt. In this talk PAMELA main results will be reviewed.

**Keywords:** Cosmic rays

**Not available.**