

H, He, Li and Be Isotopes in the PAMELA-Experiment

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On the 15th of June 2006, the PAMELA satellite-borne experiment was launched from the Baikonur cosmodrome and it has been collecting data since July 2006. The apparatus comprises a time-of-flight system, a silicon-microstrip magnetic spectrometer, a silicon-tungsten electromagnetic calorimeter, an anti-coincidence system, a shower tail counter scintillator and a neutron detector. The scientific objectives addressed by the mission are the measurement of the antiprotons and positrons spectra in cosmic rays, the hunt for antinuclei as well as the determination of light nuclei fluxes from hydrogen to oxygen in a wide energy range and with very high statistics. In this paper the identification capability for H, He, Li and Be isotopes using two different detector systems will be presented, combining the rigidity measurement from the magnetic spectrometer with the velocity information derived either with the time-of-flight or with multiple dE/dx measurements in the calorimeter. Preliminary results of the fluxes and the isotopic ratios will also be presented.

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