

DETECTION OF COSMIC RAY ANTIPROTONS WITH THE HEAT-PBAR INSTRUMENT

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HEAT-pbar, a balloon instrument to measure the cosmic-ray antiproton flux from from 5 to 50 GeV energy, was flown successfully in spring 2000. The instrument consists of a combination of a superconducting magnet spectrometer with time-of-flight counters and multiple wire chambers for measurements of the specific ionization. We review the instrument performance during flight and discuss how the detector configuration separates antiprotons from the large flux of electrons, muons/pions, and protons. After all data analysis cuts, approximately 70 antiprotons were detected.