

POSITRON MEASUREMENTS WITH THE HEAT-PBAR INSTRUMENT

S. Coutu (1), A.S. Beach (1), J.J. Beatty (1), A. Bhattacharyya (2),
C. Bower (2), M.A. DuVernois (1), A. Labrador (3), S.P. McKee (4),
S. Minnick (1), D. Muller (3), J. Musser (2), S. Nutter (1),
M. Schubnell (4), S. Swordy (3),
G. Tarle (4), A. Tomasch (4)
(1) Penn State University, (2) Indiana University, (3) University of Chicago,
(4) University of Michigan

The HEAT-pbar magnet spectrometer, flown on a balloon in Spring 2000, was designed for measurements of cosmic-ray antiprotons. However, the use of several particle identification methods also permits the detection of electrons and positrons with high rejection power against protons, pions and muons. We present new measurements of the positron fraction above 5 GeV, which confirm the results of the earlier HEAT-e \pm flights, albeit with an independent technique. In particular, we investigate the region below 10 GeV, which previously had indicated some structure, possibly suggesting a small primary contribution to the positron intensity.