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Antiproton Flux and Properties of Elementary Particle Fluxes in Primary Cosmic Rays Measured with the Alpha Magnetic Spectrometer on the ISS

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The fluxes and flux ratios of charged elementary particles in cosmic rays are presented in the absolute rigidity range from 1 up to 2000 GV. In the absolute rigidity range ~ 60 to ~ 500 GV, the antiproton, proton, and positron fluxes are found to have nearly identical rigidity dependence and the electron flux exhibits different rigidity dependence. Below 60 GV, the antiproton-to-proton, antiproton-to-positron, and proton-to-positron flux ratios each reaches a maximum. Particular emphasis is made on new observations of the properties of elementary particles in the rigidity range above 500 GV.

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