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Precision Measurement of the positron fraction in Primary Cosmic Rays with AMS on the Space Station

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Measurements of the individual electron and positron fluxes and of the positron fraction have different systematic errors. The flux measurements depend on the acceptance while the fraction measurement depends more on statistics. The latest AMS results on the precision measurement of the positron fraction in primary cosmic rays in the energy range from 0.5 to 700 GeV based on ˜20 million positron and electron events are presented. This measurement extends the energy range of our previous observation and increases its precision. The new results show that at ~260 GeV the positron fraction reaches its maximum. Comparison of the measured positron fraction with the Dark Matter and other models will be presented.

Experimental Collaboration

AMS-02 Collaboration

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