

Properties of Iron Primary Cosmic Rays: Results from the Alpha Magnetic Spectrometer

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We report the observation of new properties of primary iron (Fe) cosmic rays in the rigidity range 2.65 GV to 3.0 TV with 0.62 million iron nuclei collected by the Alpha Magnetic Spectrometer experiment on the International Space Station. Above 80.5 GV the rigidity dependence of the cosmic ray Fe flux is identical to the rigidity dependence of the primary cosmic ray He, C, and O fluxes, with the Fe/O flux ratio being constant at 0.155 ± 0.006 . This shows that unexpectedly Fe and He, C, and O belong to the same class of primary cosmic rays which is different from the primary cosmic rays Ne, Mg, and Si class.

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Collaboration

AMS

other Collaboration

Subcategory

Experimental Results

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