

Cosmic Anti-Protons and Properties of Elementary Particle Fluxes

Friday 19 July 2024 08:30 (20 minutes)

Precision measurements by AMS reveal unique properties of cosmic charged elementary particles. In the absolute rigidity range ~ 60 to ~ 500 GV, the antiproton flux and proton flux have nearly identical rigidity dependence. This behavior indicates an excess of high energy antiprotons compared with secondary antiprotons produced from the collision of cosmic rays. More importantly, from ~ 60 to ~ 500 GV the antiproton flux and positron flux show identical rigidity dependence. The positron-to-antiproton flux ratio is independent of energy and its value is determined to be a factor of 2 with percent accuracy. This unexpected observation indicates a common origin of high energy antiprotons and positrons in the cosmos.

Alternate track

1. Dark Matter Detection

I read the instructions above

Yes

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Session Classification: Astro-particle Physics and Cosmology

Track Classification: 08. Astro-particle Physics and Cosmology