

Unique Properties of the 3rd Group of Cosmic Rays measured by the Alpha Magnetic Spectrometer

Thursday 18 July 2024 20:40 (20 minutes)

Cosmic Nitrogen, Sodium, and Aluminum nuclei are a combination of primaries, produced at cosmic-ray sources, and secondaries resulting from collisions of heavier primary cosmic rays with the interstellar medium. We present high statistics measurements of the N, Na and Al rigidity spectra. We discuss the properties and composition of their spectra and present a model-independent determination of their primary and secondary components, together with the mostly primary cosmic rays C, Ne, Mg, and S. This allows us to determine the C/O, N/O, Ne/Si, Na/Si, Mg/Si, Al/Si, and S/Si abundance ratios at the source independent of cosmic ray propagation.

Alternate track

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