

Unique Properties of Light Nuclei Time Variation up to 60 GV Measured by the Alpha Magnetic Spectrometer

Saturday 20 July 2024 11:30 (15 minutes)

We present for the first time the high statistics precision measurement of time structures of Li, Be, B, C, N, and O nuclei in cosmic rays in an entire solar cycle (11 years), from May 2011 to Nov 2022 between 2 and 60 GV. The fluxes and their ratios have been determined for 147 Bartels rotations. The fluxes are anti-correlated with solar activity, and the amplitude of the time structures decreases with rigidity, and all nuclei exhibit similar time variations. The Li, Be, and B fluxes exhibit a significant difference in solar modulation with respect to the C, N, and O fluxes. This observation provides new information on the propagation of cosmic rays in the heliosphere.

Alternate track

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