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Precision Monthly Fluxes Measurement of Lithium, Beryllium, Boron, Carbon, and Oxygen in Cosmic Rays with the Alpha Magnetic Spectrometer on the International Space Station

Cosmic Rays (CR) inside the Heliosphere are subject to the effects of the Solar Modulation, resulting from their interaction with the solar wind and with the interplanetary magnetic field. These effects are strongly related to the solar activity and lead to a temporal variation of the cosmic ray intensity near Earth for rigidities up to few tens of GV.

In this contribution, properties of time structures of light nuclei ($3 \leq Z \leq 8$) fluxes in cosmic rays have been measured for 147 Bartel rotations ranging from May 2011 to November 2022 in the rigidity range between 2 and 60 GV with 5.3×10^6 lithium, 2.6×10^6 beryllium, 7.8×10^6 boron, 26.1×10^6 carbon, 6.6×10^6 nitrogen, and 22.1×10^6 oxygen nuclei collected with the Alpha Magnetic Spectrometer aboard the International Space Station. This period covers a full solar cycle from the ascending phase of solar cycle 24 to the similar phase of solar cycle 25. The fluxes show similar time variations with amplitudes of the time structures decreasing with increasing rigidities. This provides new information on the propagation of cosmic rays in the heliosphere.

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