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Properties of Cosmic Li Isotopes Flux

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We present the first measurement of cosmic-ray fluxes of 6Li and 7Li isotopes in the rigidity range from 1.9 to 25 GV. The measurements are based on 0.97 million 6Li and 1.04 million 7Li nuclei collected by the Alpha Magnetic Spectrometer (AMS) on the International Space Station from May 2011 to October 2023. We observe that over the entire rigidity range the 6Li and 7Li fluxes exhibit nearly identical time variations. Above ~7GV, we find an identical rigidity dependence of the 6Li and 7Li fluxes. This shows that they are both produced by collisions of heavier cosmic-ray nuclei with the interstellar medium and, in particular, excludes the existence of a sizable primary component in the 7Li flux.

Collaboration you are representing

AMS

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