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Cosmic Ray Light Nuclei Isotopes Measured by the Alpha Magnetic Spectrometer on the ISS

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Precise knowledge of the spectra of secondary cosmic-ray isotopes provides a powerful tool to constrain cosmic-ray propagation models. In particular, ^{3}He isotopes in cosmic rays are produced by interactions of primary ^{4}He with the interstellar medium; similarly, lithium and beryllium are mainly produced by the fragmentation of heavier primary cosmic-ray nuclei. Among light isotopes, the radioactive ^{10}Be, which has half-life comparable to the cosmic-ray residence time in the Galaxy, provides crucial complementary information. We present precision measurements of the fluxes of helium isotopes, ^{3}He and ^{4}He, lithium isotopes, ^{6}Li and ^{7}Li, and beryllium isotopes, ^{7}Be, ^{9}Be and ^{10}Be, as well as the time dependence of the ^{3}He/^{4}He flux ratio, based on data collected by AMS on the International Space Station.

Reference to paper (DOI or arXiv)

Your gender (free text)

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