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Precision measurements of 3He-to-4He ratio and individual 3He and 4He fluxes in Cosmic Rays with the Alpha Magnetic Spectrometer on the International Space Station

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The spectral shape of the secondary isotopes in cosmic rays is completely determined by the source spectrum of the parent elements and by the propagation process. In particular, 3He in cosmic rays is believed to result from the interaction of primary 4He with the interstellar medium, providing a powerful tool to constrain the parameters of the galactic cosmic rays propagation models. Precise measurements of the 3He and 4He fluxes and the 3He/4He flux ratio are presented in the rigidity range from 1.9 to 15 GV for 3He, from 2.1 to 21 GV for 4He, and from 2.1 to 15 GV for the 3He/4He flux ratio based on data collected by AMS during the first 6.5 years of operation. The 3He and 4He fluxes are measured in 21 time periods of four Bartels' rotations (108 days) each.

Secondary track (number)

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