

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

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Cosmic Rays (CR) inside the Heliosphere interact with the solar wind and with the interplanetary magnetic field, resulting in a temporal variation of the cosmic ray intensity near Earth for rigidities up to a few tens of GV. This variation is known as Solar Modulation. Previous AMS results on proton and helium spectra showed how the two fluxes behave differently in time. To better understand these unexpected results, one could therefore study the next most abundant species. In this contribution, the precision measurements of the monthly proton, helium, carbon, and oxygen fluxes for the period from May 2011 to Nov 2019 with the Alpha Magnetic Spectrometer on the International Space Station are presented. The detailed temporal variations of the fluxes are shown up to rigidities of 60 GV. The time dependence of the C/O, He/(C+O), p/(C+O), and p/He are also presented, and their implication on the shape of the nuclei LIS is discussed.

Primary author: KHIALI, Behrouz (INFN, Tor Vergata)

Presenter: KHIALI, Behrouz (INFN, Tor Vergata)

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