Contribution ID: **49** Type: **not specified**

Solar Modulation Effect and Short Term Solar Activity with AMS

Tuesday, 25 April 2017 11:15 (30 minutes)

The Alpha Magnetic Spectrometer (AMS), on the International Space Station (ISS) since May 2011, has acquired the largest number of particles ever measured in space by a single experiment, performing the most precise measurement of galactic cosmic rays (GCR) to-date. For the first time we present the detailed time variation of multiple particle species fluxes measured in the first five years of operations, during the ascending phase of solar cycle 24 and reversal of the Sun's magnetic field polarity (from negative A < 0 to positive A > 0).
For all particles, the high energy spectrum remains stable versus time, while the low-energy range is strongly modulated by the solar activity that recently reached its maximum.
In addition, the detailed fluxes behavior show sub-structures immersed in the long term modulation which are related to the strongest solar events, i.e. coronal mass ejections and Forbush decreases. Modulation charge sign effects and multiple particle comparison will be shown. Solar energetic particle fluxes related the some of the strongest solar events of solar cycle 24 will be also presented.

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Session Classification: Late Tuesday Morning