

The influence of short timescale solar activity on the proton flux measured by AMS: Solar energetic particles and Forbush decreases

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During the first 5 years of operations on board of the International Space Station, from May 2011 to May 2016, AMS has detected many short-term increases in the proton flux due to solar energetic particle (SEP) events and many sudden suppressions of the galactic cosmic ray (GCR) flux, called Forbush decreases (FD). AMS is able to measure the most energetic SEPs and has observed 27 SEP events associated with M- and X-class flares and fast coronal mass ejections (CME) with rigidities near to and above 1 GV. FDs associated with interplanetary CMEs and corotating interaction regions are observed and AMS can study their behavior with rigidity. Selected examples of each type of event will be presented.

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