Contribution ID : **786** Type : **Poster**

Rigidity dependences of the main characteristics of Forbush decreases

Monday, 5 October 2020 19:45 (15)

Forbush decrease (FD) is an effect in the cosmic ray physics which is characterized by sharp short-term decreases in cosmic ray intensities recorded by satellite and ground-based instruments. Nowadays it is well established that coronal mass ejections (CMEs) are the main drivers of FD. A huge amount of solar plasma is thrown into interplanetary space during CMEs. This plasma propagates outwards from the Sun with a magnetic field frozen into it. These moving structures are known as interplanetary coronal mass ejections (ICMEs). ICMEs modulate cosmic ray particles causing FDs. Today the properties of FDs are studied mostly by ground based detectors such as neutron monitors and muon godoscopes. These detectors are characterized by high event statistics, but register intensity of secondary cosmic rays. In this work rigidity dependencies of amplitudes and recovery times of FDs obtained by the PAMELA experiment are presented. The PAMELA spectrometer, consisting of a time-of-flight system, anticoincidence systems, a magnetic spectrometer, an electromagnetic calorimeter and a neutron detector, was installed on board the Resurs DK1 satellite, which was launched into Earth's orbit on June 15, 2006.

Primary author(s) : LAGOIDA, Iliya (Moscow Engineering Physics Institute); VORONOV, Sergey; MIKHAILOV, Vladimir (NRNU MEPHI)

Presenter(s) : LAGOIDA, Iliya (Moscow Engineering Physics Institute)

Session Classification : Poster session

Track Classification : Astroparticle physics