



Contribution ID: 1203

Type: **Poster contribution**

Non-geoeffective interplanetary disturbances observed by muon hodoscope URAGAN

Saturday 1 August 2015 15:30 (1 hour)

Cosmic rays flux detected on the Earth's surface penetrates the heliosphere and carries information about the processes occurring in it. Muon hodoscope URAGAN allows reconstruct the tracks of cosmic ray muons with a high angular accuracy (about 1 degree) in a wide range of zenith (0-80 degrees) and azimuthal angles (0-360 degrees) in real time. Methods developed for URAGAN muon hodoscope data analysis allow measure not only the total intensity of the detected particles, but also the local anisotropy of cosmic rays with a single setup. Comparison of the parameters of the local anisotropy of the muon flux with the data of the different satellites (STEREO, SOHO, ACE, etc.) showed that the cosmic ray flux on the Earth's surface is affected not only by the emissions directed toward the Earth, but also by the CMEs directed in the opposite direction, for example, a series of CMEs of 2012 detected only by STEREO-A. The paper presents the first results of the analysis of these events, which showed that during such CMEs strong changes in the parameters of the angular distribution of the muon flux were observed, which were not seen in the integral counting rate of the muon hodoscope. This fact explains the presence of periods with the increased local anisotropy of the muon flux in the absence of disturbances in the magnetosphere and nearby interplanetary magnetic field. At the same time, the events directed toward the Earth have more influence on the integral muon flux than on the angular characteristics.

Collaboration

– not specified –

Registration number following "ICRC2015-I"

48

Author: Dr BARBASHINA, Natalia (National Research Nuclear University MEPhI (Moscow Engineering Physics Institute))

Co-authors: Prof. PETRUKHIN, Anatoly (National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)); Prof. VESELOVSKY, Igor (Skobeltsyn Institute of Nuclear Physics, Lomonosov Moscow State University (MSU), Space Research Institute (IKI), Russian Academy of Sciences); Mr ASTAPOV, Ivan (National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)); Dr SHUTENKO, Victor (National Research Nuclear University MEPhI (Moscow Engineering Physics Institute))

Presenter: Dr BARBASHINA, Natalia (National Research Nuclear University MEPhI (Moscow Engineering Physics Institute))

Session Classification: Poster 2 SH

Track Classification: SH-EX