



Contribution ID: 561

Type: **Oral contribution**

The NUCLEON Space Experiment status and the first results

Saturday, August 1, 2015 3:15 PM (15 minutes)

The “knee” energy range 1015 - 1016 eV is a crucial region for the understanding of the Cosmic Rays (CR) origin, acceleration and propagation in our Galaxy. The NUCLEON satellite experiment is designed to investigate directly a cosmic ray nuclei energy spectrum and the chemical composition from 100 GeV to 1000 TeV and the atomic charge range up to Z~40 as well as a cosmic ray electron spectrum from 50 GeV to 3 TeV. The effective geometric factor is more than 0.2 m²sr for nuclei and 0.06 m²sr for electrons. The satellite was launched in 26 December 2014. The spacecraft orbit is a Sun-synchronous one with inclination 97.276 and a middle altitude of 475 km. The total weight of the NUCLEON apparatus is 375 kg, and planned exposition time of 5 years. The flight tests of the NUCLEON detector were done and the preliminary NUCLEON experiment results are presented.

Collaboration

– not specified –

Registration number following ”ICRC2015-I”

483

Primary authors: PANOV, Aleksandr (MSU SINP); VORONIN, Alexander (MSU SINP); TURUNDAEVSKIY, Andrey (MSU SINP); TKACHENKO, Artur (JINR, BITP); POLKOV, Danila (SDB Automatika); KARMANOV, Dmitry (MSU SINP); PODOROZHNY, Dmitry (MSU SINP); ATKIN, Eduard (MEPhI); KOVALEV, Igor (MSU SINP); KUDRYASHOV, Ilya (MSU SINP); TKACHEV, Leonid (JINR); SVESHNIKOVA, Lubov (MSU SINP); MERKIN, Mikhail (MSU SINP); TOROCHKOV, Mikhail (MSU SINP); GORBUNOV, Nikolay (JINR); VASILIEV, Oleg (MSU SINP); FILIPPOV, Sergey (SDB Automatika); POROKHOVOY, Sergey (JINR); BULATOV, Vadim (SDB Automatika); GREBENYUK, Viktor (JINR); SHUMIKHIN, Vitaly (MEPhI); DOROKHOV, Vyacheslav (SDB Automatika)

Presenter: PODOROZHNY, Dmitry (MSU SINP)

Session Classification: Parallel CR10 Dir heavy

Track Classification: CR-EX