



30th International Cosmic Ray Conference

Contribution ID : 0

COSMIC RAY SPECTRUM BY ENERGY SCATTERED OF EAS PARTICLES IN THE ATMOSPHERE AND A GALACTIC MODEL

The differential energy spectrum of cosmic rays from Cherenkov radiation measurements in EAS in the energy range of $10^{15} - 10^{20}$ eV has been compared with an anomalous diffusion model for the particles in interstellar space having fractal properties (Lagutin et al., 2001). Calculations of the spectrum have been carried out for each of five types of primary nuclei: p, He, C, Mg, Fe, and the normalization in intensity for the energy region $E_0 \sim 10^{16}$ eV. The close association between experimental data and calculated "all particle" spectra in form at $E_0 \sim (10^{15} - 10^{18})$ eV is found. In

this case, the average mass composition of cosmic rays calculated by five components does not contradict the average mass composition from experimental data which was obtained by several of EAS characteristics in that energy region.

Primary authors : Dr. KNURENKO, Stanislav (Yu. G. Shafer Institute of Cosmophysical Research and Aeronomy)

Co-authors : Dr. IVANOV, Anatoly (Yu. G. Shafer Institute of Cosmophysical Research and Aeronomy) ;
Dr. SABOUROV, Artem (Yu. G. Shafer Institute of Cosmophysical Research and Aeronomy) ; Dr.
SLEPTSOV, Ivan (Yu. G. Shafer Institute of Cosmophysical Research and Aeronomy)

Presenter : Dr. KNURENKO, Stanislav (Yu. G. Shafer Institute of Cosmophysical Research and Aeronomy)

Session classification : Posters 1 + Coffee

Track classification : HE.1.2.A

Type : Poster