

## **IS THE “KNEE” AND ”ANKLE” IN COSMIC RAY SPECTRUM DUE TO ITS PROPAGATION?**

W.Tkaczyk

University of Lodz, Pomorska 149/153, 90-236 Lodz, Poland

[Wtkaczyk@kryzia.uni.lodz.pl](mailto:Wtkaczyk@kryzia.uni.lodz.pl) /Fax+48 42 6787087

The Hillas diagram size-strange of magnetic field allows pulsars as galactic cosmic ray sources. The spectrum of cosmic nuclei outgoing from pulsar is formed by its photo-disintegration in the soft photon bath around the source. The diffusion equations for high-energy nuclei have been solved for various initial conditions. We have assumed that in the source nuclei are accelerated with single power law spectrum and constant mass composition. The sources are distributed in galactic disk. The propagation of high-energy nuclei in galactic magnetic field has been analysed. We have found that the confinement time versus energy changing its shape at the some energy where „knee” and „ankle” in cosmic ray spectrum is observed. The spectra of the particular group of nuclei expected in the cosmic rays spectrum have been calculated. The total (sum over whole nuclei) spectrum is compared with experimental data in wide energy range. The mass composition versus energy also agrees with experimental data.