ON THE GALACTIC ORIGIN OF ULTRAHIGH ENERGY COSMIC RAYS

A.A. Mikhailov Institute of Cosmophysical Research and Aeronomy, 31 Lenin Ave., 677891 Yakutsk, Russia mikhailov@ikfia.ysn.ru

The arrival directions of showers by the Yakutsk EAS array data are considered. In the energy region of 5.10^{18} - 2.10^{19} eV the increased flux of particles from the direction to the Galaxy plane has been detected. The particle fluxes from the direction to some pulsars in the narrow angular regions, exceeding the expected fluxes for the case of isotropy, are observed. It is established that the distribution of these fluxes on the celestial sphere depends on a distance of the pulsars to the Earth: for the pulsars located not far than 1 kpc the particle fluxes are practically distributed uniformly over all visible part of sky above the Yakutsk array, and for the pulsars located farther than 2 kpc the fluxes arrive from the direction along lines galactic magnetic field. The problem of origin of ultrahigh energy cosmic rays is discussed.