



Семинар

Четверг 24 мая,

11-00

Конференц-зал ЛЯП

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"Signatures of nearby supernova in cosmic ray data"

In this talk I will show that standard static model of galactic cosmic rays suggested in 1990th is in direct contradiction with large number of modern observations, which include measured variability of cosmic ray flux in Galaxy, magnetic field measurements and large number of anomalies in local cosmic ray observations.

I will present new model of galactic cosmic rays, which takes into account anisotropic propagation of cosmic rays and explain multiple anomalies in the cosmic ray data

by adding the effects of a 2 million year old nearby supernova. In particular, this supernova can explain the excess of positrons and antiprotons above 20 GeV found by PAMELA and AMS-02, the discrepancy in the slopes of the spectra of cosmic ray protons and heavier nuclei in the TeV-PeV energy range and the plateau in cosmic ray dipole anisotropy in the 2-50 TeV energy range.

Same supernova was responsible for Fe60 measured in ocean crust.