



**ОБЪЕДИНЕННЫЙ ИНСТИТУТ ЯДЕРНЫХ ИССЛЕДОВАНИЙ**

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**ОБЩЕИНСТИТУТСКИЙ СЕМИНАР**

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**21 июня 2007 (четверг)  
15.00**

**Конференц-зал ЛТФ**

**A THEORY OF COSMIC RAYS**

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At the mature age of 94, the origin of Cosmic Rays is the longest-lasting conundrum in astrophysics. I shall discuss a theory of cosmic rays (CRs) based on a single “accelerator” at all energies. The distribution of CRs in the Galaxy, their total luminosity, the broken power-law spectra with their observed slopes, the position of the “Knee(s)” and “Ankle”, and the CR composition and its variation with energy are all predicted in terms of very simple and completely “standard” physics. The theory is very predictive: only one parameter specific to CRs has to be fit to the data. This theory is part of a “unified view of high-energy astrophysics” based on the “Cannon-Ball” model of the relativistic eject of accreting black holes and neutron stars. If correct, this model is only lacking a satisfactory theoretical understanding of the “cannon” which emits the cannonballs in catastrophic process of accretion.