Universität Karlsruhe (TH)
Forschungsuniversität • gegründet 1825

Fakultät für Physik

Physikalisches Kolloquium

Alvaro de Rújula, CERN
»A Theory of Cosmic Rays«
Einführung: U. Nierste

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 two parameters specific to CRs have 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 ejecta 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 processes of accretion.

Freitag, 09.06.2006, 17 Uhr c.t.,
Universität Karlsruhe (TH), Otto-Lehmann-Hörsaal, Physik-Flachbau (Geb. 30.22).
Anschließend Nachsitzung im Gastdozentenhaus „Heinrich Hertz“

Universität Karlsruhe (TH)
Fakultät für Physik
76128 Karlsruhe

Telefon (07 21) 6 08 - 35 18
Telefax (07 21) 6 08 - 35 19
E-Mail: fakultaet@physik.uni-karlsruhe.de
http://www.physik.uni-karlsruhe.de

Besucheradresse:
Wolfgang-Gaede-Straße 1
Physik-Hochhaus, Geb. 30.23
76131 Karlsruhe