



# DESY Seminar

6 November 2007, 17:00, DESY Hörsaal  
Karl-Heinz Kampert (Wuppertal)

## *Cosmic Rays at the Highest Energies: First Science Results from the Pierre Auger Observatory*

Nature produces cosmic rays up to macroscopic energies of at least  $10^{20}$  eV. While their origin at low to moderate energies appears reasonably well understood, those with extremely high energies remain mysterious. The Pierre Auger Cosmic Ray Observatory, nearing completion in Argentina, aims at solving this most pressing question astroparticle physics. The first data provide clear evidence for the existence of the GZK-cutoff and they largely rule out models of cosmic ray origin by decays of superheavy relic particles from phase transitions in early Universe. Since the highest energy cosmic rays sustain only small deflections in magnetic fields, they also provide an opportunity for studying directional correlations with extragalactic objects.

- Tea and cookies will be served at 16:45 in the lobby.
- After the seminar there is a chance for private discussions with the speaker over wine and pretzels also in the lobby.