

Gemeinsame Veranstaltung von
Humboldt-Universität zu Berlin, Institut für Physik
(Theorie der Elementarteilchen / Computerorientierte Theoretische Physik)
DESY, Zeuthen

SEMINAR
Feldtheorie auf dem Gitter und
Phänomenologie der Elementarteilchen

Am Montag, dem **2. November 2009**, um **16:00 Uhr s.t.** spricht

David Mesterhazy

Humboldt Universität

zum Thema

Turbulence on the lattice

Abstract

I present a novel approach to determine numerically the statistical behavior of small-scale structures in turbulent flows at the example of Burgers turbulence. The feasibility of Monte Carlo simulations in the path integral formalism is demonstrated and it is shown that this way structure functions can be computed and their scaling behavior determined. Understanding systematic effects at finite Reynolds number and finite lattice size such as certain algorithmic improvements appear to be crucial to extract structure function scaling exponents reliably to high precision.

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