DIPARTIMENTO DI FISICA "E.Fermi"
UNIVERSITÀ DI PISA
CORSO DI DOTTORATO IN FISICA
Largo B.Pontecorvo,3 - Edificio B-C
56127 PISA - ITALY

CORSO DI DOTTORATO IN FISICA
AVVISO DI SEMINARIO

Giovedi 24 Maggio 2007
ore 15:30

Dipartimento di Fisica
Largo B.Pontecorvo, 3
Sala 131 - piano terra - Ed. C

Dr. Stefan Rotter

Department of Applied Physics, Yale University, USA
and
Institute for Theoretical Physics, Vienna University of Technology

" Mesoscopic Transport in the Quantum-to-Classical Crossover"

Abstract:
Recent results on shot noise and full electron counting statistics in phase-coherent transport through quantum dots will be presented. By numerically simulating transmission through ballistic and disordered two-dimensional cavities, we find that the shot noise power in the current through regular systems is surprisingly similar to the noise in chaotic or disordered cavities. I will discuss how this finding can be understood in terms of diffractive scattering at the cavity openings, which act as very strong noise sources. Furthermore I will address the emergence of 'noiseless scattering states' in the quantum-to-classical crossover of transport.

G.Grosso