Einladung
zum
Physikalischen Kolloquium

Montag, 12.05.2014
16:15 Uhr in N24/H13

Integrability out of equilibrium and the quantum transport problem

Two seemingly quite disconnected areas of mathematical physics will be briefly introduced and brought into contact: The theory of dynamical semigroups describing open quantum systems and the theory of integrability of strongly interacting quantum systems in one dimension. We will discuss this bridge within a simple paradigm of non-equilibrium steady states of boundary driven quantum chains. The structure of explicit solutions will be illustrated for several basic integrable models of quantum matter: the anisotropic Heisenberg (XXZ) spin 1/2 chain, the Fermi-Hubbard chain and the Lai-Sutherland spin-1 chain. We will show how such amusing, but rather formal explicit results for fixed points of many-body dynamical semigroups can be employed to yield new conserved quantities and establish rigorous lower bounds on transport coefficients in fully coherent (closed) systems.

Ab 15.45 Kaffee, Tee und Kekse vor dem Hörsaal H13
Organisation:       Prof. Jelezko   Tel. 23750
Host:                     Prof. Huelga   Tel. 22901, off.: 22911