



TRR 80 Sonderseminar

Am Dienstag, den 17. Januar um 16:00 Uhr

spricht

Dr. Zala Lenarčič

Institut für Theoretische Physik, Universität zu Köln

über das Thema

Pumping approximately integrable models

When a degree of freedom is approximately protected by a conservation law even weak perturbations can cause strong response in that quantity and drive the many-particle system far from its equilibrium steady state. A platform with infinitely many (quasi-)local conserved quantities is provided by integrable quantum models, which are theoretically interesting yet experimentally always only approximately realized. I will present our theory of weakly open driven integrable models on an example of 1D Heisenberg XXZ chain. As a possible concrete experimental confirmation of our theory I will suggest novel heat and spin pumps exploiting the property that these currents are approximately conserved quantities within the model considered: only weak THz laser radiation should induce huge heat and spin currents. Furthermore, we will argue that the concept of the generalized Gibbs ensembles, introduced to describe the relaxation of closed integrable models, can be approximately but efficiently used even in the presence of a weak openness and driving.

Gäste sind herzlich willkommen.

Der Vortrag findet im Seminarraum S-288, Institut für Physik, Universität Augsburg statt.

Gastgeber: Prof. Dr. Thilo Kopp

www.trr80.de