Aktuelle Veranstaltungen

Kolloquium

Thema: Nonequilibrium quantum chains: From ballistic to diffusive transport

Datum: 07.05.18

Uhrzeit: 16:15

Ort: H6

Vortragender: Prof. Dr. Tomaz Prosen

University of Ljubljana

Non-equilibrium quantum physics has become one of the central fields of research in particular due to an impressive degree of control in recent cold atom and quantum optics experiments. On the theoretical side, the topic provides a very fruitful playground where many seemingly diverse fields of theoretical and mathematical physics meet and overlap, such as condensed matter theory, statistical mechanics and field theory, string theory, quantum information, and dynamical systems. Having relevant and nontrivial exactly solvable models displaying key universal phenomena is a crucial aspect of every successful theory. In non-equilibrium quantum interacting many-body systems, such exact solutions have been very rare, and only very recently substantial progress has been made. In this talk I will describe one thread of recent progress, which started from exact solutions of boundary driven master equations of interacting quantum spin chains and ended up in discovering new families of quasilocal conservation laws. The latter are relevant for describing equilibration after quantum quenches and rigorously establishing ballistic or diffusive high temperature transport in integrable systems.

Ansprechpartner: G. Akemann

Kolloquium Mathematische Physik

Thema: Floquet Theory for Markov Processes
Motivated by applications from biology and physics we discuss Markov jump processes in finite state spaces with transition rates that depend periodically on time. Our main result provides conditions under which such processes are attracted by periodically varying probability distributions. The elementary proof is based on the analysis of a special class of systems of ordinary differential equations with topological fixed-point arguments being used in the non-linear case. The presentation reports on a recent paper with Lars Grüne (Bayreuth) and Michael Margaliot (Tel Aviv) http://dx.doi.org/10.1098/rsos.172157.
Seminar Kondensierte Materie

**Irreversibility in active matter systems: Fluctuation theorem and mutual information**

**Thema:** Irreversibility in active matter systems: Fluctuation theorem and mutual information

**Datum:** 04.05.18

**Uhrzeit:** 14:15

**Ort:** D5-153

**Vortragender:** Lennart Dabelow

University Bielefeld

**Inhalt:**

**Ansprechpartner:** Peter Reimann

Seminar Mathematische Physik

**Eigenvector-related correlation functions and their connection with generalized chiral random matrix ensembles with a source**

**Thema:** Eigenvector-related correlation functions and their connection with generalized chiral random matrix ensembles with a source

**Datum:** 11.01.18

**Uhrzeit:** 16:00

**Ort:** D5-153

**Vortragender:** Jacek Grela

LPTMS Université Paris-Sud

We will introduce eigenvector-related correlation functions, discuss briefly their significance in dynamical Ginibre ensemble [1,2] and present asymptotic results in the large matrix size limit. Motivated by recent work [3] on joint eigenvector-eigenvalue correlation function valid for finite matrix size N in the complex and real Ginibre

Ansprechpartner: Gernot Akemann

Seminar AG Zufallsmatrizen

Thema: tba

Datum: 16.05.18

Uhrzeit: 16:15

Ort: V3-201

Vortragender: Adam Mielke

Bielefeld

Inhalt:

Ansprechpartner: Gernot Akemann