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Einladung
zum
Oberseminar Stochastik

Am Mittwoch, 07.05.2025, um **17:45 Uhr**, im Seminarraum 1
(Raum 005) der Abteilung Mathematik, Weyertal 86-90, 50931 Köln
spricht:

Mirmukhsin Makhmudov

(Universität Leiden)

zum Thema

Thermodynamic formalism for long-range potentials

Abstract:

One-dimensional long-range models have captured considerable attention within the
Statistical Mechanics community, especially since F. Dyson demonstrated the
presence of phase transitions for long-range Ising models in the low-temperature
regime. In 2017, A. Johansson, A. Öberg, and M. Pollicott studied the Dyson model
on the half-line and established that it also exhibits a phase transition, with a phase
diagram similar to that of Dyson's classical model on the line.

In this talk, I discuss the relationship between half-line and whole-line (classical)
Gibbs states for one-dimensional systems in a general setup. Notably, the findings
discussed apply to both ferromagnetic and antiferromagnetic Dyson models.

Additionally, the talk addresses the problem of the existence and regularity of the
principal eigenfunction of the Perron-Frobenius transfer operator for potentials that
fall outside the studied classes in thermodynamic formalism.

Alle Interessenten sind herzlich eingeladen.

Die Dozenten der Stochastik