

24.01.2018

Einladung

zum

Habilitationskolloquium von Dr. Jan-Frederik Pietschmann

am

Mittwoch, 31.01.2018, 10:15 Uhr, Hörsaal M 5

Thema des Vortrages:

Hydrodynamic limits of interacting particle systems

We consider interacting particle systems which, for the purpose of this talk, are defined as time-continuous Markov processes on a given space of configurations. We will focus on the exclusion process on the integer lattice \mathbb{Z}^d , where $d \geq 1$ denotes the spatial dimension. In this case, the configuration space is given by $\Omega = \{0, 1\}^{\mathbb{Z}^d}$, i.e. at each point of the lattice there can be at most one particle.

If particles are only allowed to jump to neighbouring lattice sites, it is known that the hydrodynamic (or macroscopic) limit of such a system is given by the linear heat equation, [Lig85]. More recently, interacting particle systems with long-range interactions have been considered, [Jar08]. In this setting, the resulting limit equation depends on the scaling properties of the transition rate (i.e. the quantity that controls the probability to jump from one site to another). We will discuss this phenomena in detail and give a brief outlook to the case of multiple species.

Hierzu sind alle Mitglieder des Fachbereichs herzlich eingeladen.

gez. Xiaoyi Jiang, Dekan

Verteiler:

- Mitglieder der Gruppe der Professoren des FB 10
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