

Institute for Applied Mathematics, Bonn University

Oberseminar Stochastik

Thursday, 8 December 2022, 16:30

Lipschitz-Saal (LWK 1.016)

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Oxford University

Exploring the partial exclusion process in random environment via stochastic duality

In this talk, I present a partial exclusion process in random environment, a system of random walks where the random environment is obtained by assigning a random maximal occupancy to each site of the Euclidean lattice.

This process satisfies stochastic duality and I will use this property for two purposes.

First, I will show that when assuming that the maximal occupancies are heavy tailed and i.i.d., the hydrodynamic limit of the particle system is the fractional-kinetics equation.

Second, I will show that when looking at the process coupled with two reservoirs, the n -point non-equilibrium stationary correlations exhibit a universal factorized structure.