

Institute for Applied Mathematics, Bonn University

Oberseminar Stochastik

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Seminarraum LWK 0.011

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Recurrence and Scaling Limits in Vertex Reinforced Jump Processes on Dyson Hierarchical Lattices

In this talk, we will introduce the vertex reinforced jump process on the Dyson hierarchical lattice and define a closely related random Schrödinger operator. We will demonstrate how to apply the fractional moment method, utilizing a coarse-graining property of the sigma model, to show the recurrence of the process. Additionally, we will discuss the fine-graining procedure, which provides an almost sure scaling limit of the spin model. Based on joint work with Yichao Huang and Jinglin Wang.