

- **Schmidt, Marcel: On the uniqueness class, stochastic completeness and volume growth for graphs (204)**

A graph is called stochastically complete if the associated (minimal) continuous time random walk has infinite lifetime. This stochastic property is equivalent to the uniqueness of bounded solutions to the heat equation.

In this talk we present new results on the optimal uniqueness for the heat equation on graphs. More precisely, we show that the uniqueness class on globally local graphs (graphs where the jump size of the process decays fast enough) is the same as on Riemannian manifolds. This is surprising as the result does not hold on the simplest non-globally graph, the line  $\mathbb{Z}$ . As a consequence to the uniqueness class we discuss optimal volume growth criteria for stochastic completeness for all graphs. This is joint work with Xueping Huang and Matthias Keller.