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Conformal dimension and minimality of stochastic objects

In this talk, we discuss the conformal dimension of some stochastic objects. The conformal dimension of a metric space is the infimum of the Hausdorff dimension of all its quasisymmetric images. We call a metric space minimal if its conformal dimension equals its Hausdorff dimension. We begin with a construction of a graph of a random function which is minimal. Inspired by this, we apply the same techniques to the study of 1-dimensional Brownian graphs. The main tool is the Fuglede modulus. This is a joint work with Ilia Binder and Hrant Hakobyan.