
THE WEIZMANN INSTITUTE OF SCIENCE
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE
Geometric Functional Analysis and Probability Seminar

Room 155 ,Ziskind Building
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Statistics of colored Kakutani sequences of partitions

Abstract:

We consider statistical questions concerning colored sequences of partitions, produced by applying a partition process which was first introduced by Kakutani for the 1-dimensional case. This process can be generalized as the application of a fixed multiscale substitution rule, defined on a finite set of colored sets in \mathbb{R}^d , on elements of maximal measure in each partition. Colored sets appearing in the sequence are modeled by certain flows on an associated directed weighted graph, and natural statistical questions can be reformulated as questions on the distribution of paths on graphs. Under some incommensurability assumptions, we show that special properties of Laplace transforms of the relevant counting functions imply explicit statistical results