

Limit theorems for Betti numbers of random cubical set

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Abstract

We consider in this talk the topology of random cubical sets in \mathbb{R}^d . In recent years, the concept of random topology has emerged for the study of “Topological Data Analysis”. The main topic of this talk will be focused on limit theorems for Betti numbers of random cubical sets. As an application of limit theorems for Betti numbers, we also present the ones for the lifetime sum of the persistent homology for a family of cubical sets.

This talk is based on joint work with Yasuaki Hiraoka (Tohoku University).