Random groups and strong versions of Kazhdan’s property (T)

by
Cornelia Drutu
Oxford University

Abstract

Kazhdan’s property (T) is a strong negation of amenability, relevant in the study of algebraic properties of groups, in the construction of expander graphs, in dynamics and in connection to the Baum-Connes conjectures. Various strengthened versions of property (T) have been formulated in recent years.

Among them, those involving actions on $L_p$ spaces are particularly interesting, because of their presumed connection to the conformal dimension of the boundary of hyperbolic groups, because they manage to achieve a separation between rank one and higher rank lattices, and because of the increasing role that they play in operator algebras. In this talk I shall explain how random groups, both in the triangular model and in the Gromov model, eventually have all the strengthened $L_p$-versions of property (T). This is joint work with J. Mackay.