Gröger, Maik; Lukina, Olga
Measures and stabilizers of group Cantor actions. (English) Zbl 07355405

Summary: We consider a minimal equicontinuous action of a finitely generated group $G$ on a Cantor set $X$ with invariant probability measure $\mu$, and the stabilizers of points for such an action. We give sufficient conditions under which there exists a subgroup $H$ of $G$ such that the set of points in $X$ whose stabilizers are conjugate to $H$ has full measure. The conditions are that the action is locally quasi-analytic and locally non-degenerate. An action is locally quasi-analytic if its elements have unique extensions on subsets of uniform diameter. The condition that the action is locally non-degenerate is introduced in this paper. We apply our results to study the properties of invariant random subgroups induced by minimal equicontinuous actions on Cantor sets and to certain almost one-to-one extensions of equicontinuous actions.

MSC:
37B05 Dynamical systems involving transformations and group actions with special properties (minimality, distality, proximality, expansivity, etc.)
37A15 General groups of measure-preserving transformations and dynamical systems
22F10 Measurable group actions
22F50 Groups as automorphisms of other structures
37E25 Dynamical systems involving maps of trees and graphs

Keywords:
equicontinuous group actions; Cantor sets; holonomy; measures; invariant random subgroups; stabilizers; locally quasi-analytic actions; locally non-degenerate actions

Full Text: DOI

References: