

Abstract

Topological entropy is a numerical invariant for group actions on compact spaces. Whether the entropy is positive or not makes a fundamental difference for the dynamical behavior. When a group G acts on a compact space X , a subset H of G is called an independence set for a finite family W of subsets of X if for any finite subset M of H and any map f from M to W , there is a point x of X with sx in $f(s)$ for all s in M . I will discuss how positivity of entropy can be described in terms of density of independence sets, and give a few applications including the relation between positive entropy and Li-Yorke chaos. The talk is based on various joint works with David Kerr and Zheng Rong.