

ENTROPY FOR GROUP ACTIONS

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Abstract: A basic problem in ergodic theory is to determine when measure preserving actions are conjugate. Alternately, one looks for conjugacy invariants for actions of \mathbb{Z} . There are two major types of conjugacy invariants: spectral and entropic ones. Entropy was introduced by Kolmogorov and Sinai in the 1950's and soon adapted to the actions of amenable groups. It was generally believed that no reasonable notion of entropy could be defined for non-amenable groups.

However, in 2008, Lewis Bowen in an extraordinary paper, showed that not only does such an invariant exist, but it is also easy to define. Further, he was able to extend the definition to a very large class of groups called Sofic groups. I will talk about Bowen's work and its adaptation to topological dynamics by Hanfeng Li, David Kerr and others. It would be helpful if participants can have a quick look at Bowen's paper: <http://front.math.ucdavis.edu/0802.4294>.

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