

COLLOQUIUM

Orbit equivalence, cost, and decompositions

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Abstract: Let $F_n[0, 1]$ and $F_m[0, 1]$ be free actions of the free groups on n and m generators and assume that these actions preserve the Lebesgue measure and are ergodic (i.e. indecomposable). If these actions produce the same orbits (i.e. their orbit equivalence relations are equal), must $n = m$? This is an instance of the more general question: how much of the group is "remembered" by the orbit equivalence relations of its free measure-preserving actions? The answer for free groups was given by Gaboriau in '97 via cost: a numerical invariant for measure-preserving equivalence relations involving measured graphs and their combinatorics. I will introduce this invariant and discuss relevant results, obtained in joint work with Ben Miller, on decomposing ergodic graphs of cost n into at most n ergodic Z -actions.