1046-03-661 **Inessa Epstein***, Mathematics 253-37, Caltech, Pasadena, CA 91125. *Orbit equivalence and ergodic actions of countable groups.*

Consider a countable group G acting in a Borel way by measure preserving automorphisms on a standard probability space X. The orbits of this action give rise to an equivalence relation on X. We say two measure preserving actions of groups G and H on spaces X and Y, respectively, are orbit equivalent if there is a measure preserving bijection between conull subsets of X and Y identifying the orbits.

The motivation for studying orbit equivalence originally stemmed from operator algebras. In this talk, I will discuss a result concerning the number of orbit inequivalent free, measure preserving, ergodic actions that exist for a given countable group. I will also consider the Borel complexity of the classification problem of the orbit equivalence of these actions. (Received September 09, 2008)