ROTATION EQUIVALENCE AND RIGIDITY

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Abstract

The theory of countable Borel equivalence relations analyzes the actions of countable groups on Polish spaces. The main question studied is how much information is encoded by the corresponding orbit space. The amount of encoded information reflects the extent to which the action is rigid.

In this talk we will discuss rigidity results for the action of the group of rational rotations. In particular we will analyze the rotation equivalence on spheres in higher dimension. This is connected to superrigidity results of Margulis and to Zimmer's program about the actions of discrete subgroups of Lie groups on manifolds.

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