

The Infinite Conjugacy Class Property and its Applications in Random Walks and Dynamics

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Abstract

A group is said to have the infinite conjugacy class (ICC) property if every non-identity element has an infinite conjugacy class. In this talk I will survey some ideas in geometric group theory, harmonic functions on groups, and topological dynamics and show how the ICC property sheds light on these three seemingly distinct areas. In particular I will discuss when a group has only constant bounded harmonic functions, when every proximal dynamical system has a fixed point, and what this all has to do with the growth of a group. No prior knowledge of harmonic functions on groups or Topological dynamics will be assumed.

This talk will include joint work with Anna Erschler, Yair Hartman, Omer Tamuz, and Pooya Vahidi Ferdowsi.