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Topological dynamics and Ramsey theory

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Abstract

Recall that a group G is called extremely amenable when every continuous action on a compact space has a fixed point. There is a clear strategy to know whether a polish group G is extremely amenable: First, one represents the group G as the automorphism group Aut(M) of a (approx) ultrahomogeneous metric structure M; then one uses the so-called Kechris-Pestov-Todorcevic correspondence in its continuous version stating that Aut(M) is extremely amenable if and only if the class of all finitely generated substructures of M has the approximate Ramsey property. We will present an introduction to the relationship between Ramsey theory and topological dynamics, as well as recent examples of extremely amenable groups.