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Ramsey theory and amenability of groups

In 2005, Kechris, Pestov and Todorćević proved a result which essentially equates the study of the extreme amenability of automorphism groups of countable structures with structural Ramsey theory. Here extreme amenability is the assertion that every continuous action of the group on a compact space has a fixed point. At the time it was unclear whether amenability has an analogous connection to Ramsey theory. I will show that it does. This involves the isolation of a considerable weakening of the Følner criteria for a group. It also has the following consequence: if G is non amenable group, then there is a subset E of G such that no finitely additive probability measure on G measures all translates of E equally. I will also discuss these results in the context of the (still open) amenability problem for Thompson's group F .