

Luz María García Ávila

University of Barcelona

Most of the classical combinatorial results of Ramsey type can be proved using Generic Absoluteness arguments. The traditional proofs of classical results, e.g., the Galvin-Prikry or Silver's theorems, hinge on a careful analysis of Borel or analytic partitions. But if one wants to generalize these results to more complex partitions, then one not only needs to assume some extra set-theoretic hypothesis – such as large cardinals, determinacy, or forcing axioms –, but the proof itself needs to be adapted accordingly. The advantage of using generic absoluteness is that the same proof for the Borel case generalizes readily to more complex partitions, under the additional hypothesis that the universe is sufficiently absolute with respect to its forcing extensions by some suitable forcing notions. In the case of the Ramsey property for sets of reals, the associated forcing notion is Mathias' forcing. In the case of perfect set properties, such as the Bernstein property, the associated forcing notions are Sacks forcing and its Amoeba. Typically, to each kind of partition property there are associated two forcing notions: P and Amoeba- P , so that assuming a sufficient degree of generic absoluteness under forcing with them, one can prove the desired Ramsey-type results. The combinatorial core of the problem turns out to be the following: prove that every element of the generic object added by Amoeba- P is P -generic.