

Some Recent Advancements and Open Problems in Ergodic Ramsey Theory

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The talk will be devoted to the discussion of some recent results and natural open problems in Ramsey theory which deal with patterns defined by (systems of) Diophantine equations. Among other things, we will discuss some extensions of the celebrated Szemerédi's theorem on arithmetic progressions, results and conjectures involving prime numbers, and the recent joint work with Joel Moreira on configurations of the form $x + y, xy$ in "large" sets of countable fields.