

Codruț Grosu

Turán densities of hypergraphs

Turán densities of hypergraphs are an important object of study in the field of extremal combinatorics. Despite a substantial amount of research, many basic questions are still open, the most famous one being Turán's conjecture from 1941 on the density of K_4^3 (the complete 3-graph on 4 vertices).

In the first part of my talk I will review some of the most important results concerning Turán densities. I will then discuss the following question of Jacob Fox: are there *transcendental* Turán densities of *finite* families of r -graphs? Motivated by this question, we will obtain several new, perhaps surprising, results concerning Turán densities.