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Trifference problem

In theoretical computer science, a perfect 3-hash code A is a set of n-dimensional vectors with coordinates among $\{0, 1, 2\}$ and which have the property that for every 3 distinct vectors x, y, z in A there exists at least a coordinate where the entries of the vectors are pairwise distinct (i.e. x, y, z are "trifferent" in this coordinate). Determining how large can such a code be is an important and difficult problem, known as the Trifference Problem. In this talk, we will discuss some recent developments and reflect upon a few intriguing connections with some other famous problems in extremal combinatorics.