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Title: (n, d, λ)-graphs in Extremal Combinatorics

Abstract: An (n, d, λ)-graph is a d-regular graph on n vertices so that the absolute value of each eigenvalue of its adjacency matrix, besides the largest one, is at most lambda. I will survey some of the remarkable pseudo-random properties of such graphs in which λ is much smaller than d, describe various constructions, and present several applications of these graphs in the solution of problems in Extremal Combinatorics.