

On the number of sets with given doubling

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¹ IMPA

In this talk we describe a result bounding the number of sets $A \subset \{1, 2, \dots, n\}$ with $|A| = k$ and $|A + A| \leq \lambda k$, providing a solution to a conjecture of Alon, Balogh, Morris, Samotij. We will also discuss a recent refinement of these results (joint with Collares, Morris, Morrison, Souza) in the case of bounded doubling, that is $\lambda = O(1)$. The main tool used in the proofs is the asymmetric container lemma of Morris, Samotij, Saxton.