

Public Lecture, IPM-Isfahan

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Title:

Sharp bound on the number of maximal sum-free subsets of integers

Abstract:

Cameron and Erdős asked whether the number of *maximal* sum-free sets in $\{1, \dots, n\}$ is much smaller than the number of sum-free sets. In the same paper they gave a lower bound of $2^{\lfloor n/4 \rfloor}$ for the number of maximal sum-free sets. Here, we prove the following: For each $1 \leq i \leq 4$, there is a constant C_i such that, given any $n \equiv i \pmod{4}$, $\{1, \dots, n\}$ contains $(C_i + o(1))2^{n/4}$ maximal sum-free sets. Our proof makes use of container and removal lemmas of Green, a structural result of Deshouillers, Freiman, Sós and Temkin and a recent bound on the number of subsets of integers with small sumset by Green and Morris.

September 22, 2016 (1th Mehr 1395) at 14:00-15:00.

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