

An upper bound on the size of Sidon sets

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A classical combinatorial number theory problem is to determine the maximum size of a Sidon set of $\{1, 2, \dots, n\}$, where a subset of integers is *Sidon* if all its pairwise sums are different. In this entry point into the subject, combining two elementary proofs, we decrease the gap between the upper and lower bounds by 0.2% for infinitely many values of n . We show that the maximum size of a Sidon set of $\{1, 2, \dots, n\}$ is at most $\sqrt{n} + 0.998n^{1/4}$ for n sufficiently large. Joint work with Zoltán Füredi and Souktik Roy.

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