

Zbl 264.10016

Erdős, Paul; Szemerédi, E.

On the number of solutions of $m = \sum_{i=1}^k x_i^k$. (In English)

Analytic Number Theory, Proc. Sympos. Pure Math. 24, St. Louis Univ. Missouri 1972, 83-90 (1973).

[For the entire collection see Zbl 258.00004.]

The authors restrict the x_i to be in ascending order, and included in $\{a_1, \dots, a_\ell\}$, where $a_1 < a_2 < \dots$, and $\ell > c_1 n$, c_1 a positive constant, n a positive integer. They then seek to choose m so that the equation of title has at least t solutions. They prove that such a choice is possible if $n > n_0(c_1, t)$. They discuss many related results and conjectures, and give a number of references.

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Classification:

11D41 Higher degree diophantine equations

11P99 Additive number theory