

Zbl 569.10032

Erdős, Paul; Sárközy, A.

Problems and results on additive properties of general sequences. I. (In English)

Pac. J. Math. **118**, 347-357 (1985). [0030-8730]

Let $a_1 < a_2 < \dots$ be an infinite sequence of positive integers and $R(n)$ be the number of solutions of $n = a_i + a_j$. It is proved that, roughly speaking, $R(n)$ cannot be approximated well by a monotonic increasing function. The results and proofs are of Erdős-Fuchs type [*P. Erdős* and *W. H. J. Fuchs*, *J. Lond. Math. Soc.* 31, 67-73 (1956; Zbl 070.04104)]. The special case when the approximating function has the shape $\sum_{k=1}^K c_k n^{r_k}$, $1 > r_1 > \dots > r_k > 0$ is due to *R. C. Vaughan* [*J. Number Theory* 4, 1-16 (1972; Zbl 226.10058)].

A. Balog

Classification:

11B13 Additive bases

00A07 Problem books

Keywords:

additive representations of integers; addition of sequences of integers; results of Erdős-Fuchs type; number of solutions