Zbl 146.27201

Erdős, Pál

Remarks on number theory. V: Extremal problems in number theory. II (In Hungarian. English summary)

Mat. Lapok 17, 135-155 (1966). [0025-519X]

The author continues the investigation of extremal problems in number theory started in another paper (this Zbl 127.02202). In this summary I just state a few of the problems and results considerd. Let $a_1 < \cdots < a_2 \leq n$ be a sequence of integers such that the products $\prod_{i=1}^{z} a_i^{\varepsilon_i}, \varepsilon_i = 0$ or 1, are all different. Then $z < \pi(n) + c_1 n^{1/2}/\log n$ (this was conjectured in loc. cit.) Perhaps $z < \pi(n) + \pi(n^{1/2}) + o(n^{1/2}/\log n)$. Let $a_1 < a_2 < \cdots$ be an infinite sequence of integers for which the sums $a_i + a_j$ are all distinct. Can one have $a_k = o(k^3)$? Let $a_1 < a_2 \cdots$ be an infinite sequence of integers no a divides any other. Sárközi, Szeméredi and I proved (sharpening a previous result of Behrend) that $\sum_{a_i<x} 1/a_i = o(\log x/\log\log x)^{1/2})$.

Classification:
11B75 Combinatorial number theory
11B83 Special sequences of integers and polynomials