Zbl 742.11008

Erdős, Paul; Nicolas, J.-L.; Sárközy, A.

Sommes de sous-ensembles.

Subset sums. (In French)

Sémin. Théor. Nombres Bordx., Sér. II 3, No.1, 55-72 (1991).

For any set $\mathfrak{A} \subseteq \mathbb{N}$ let $\mathfrak{P}(\mathfrak{A}, k)$ be the set of all n which are expressible as sums of exactly k distinct elements of $\mathfrak{A}$. The set $\mathfrak{A}$ is called admissible if, for $k \neq \ell$, $\mathfrak{P}(\mathfrak{A}, k) \cap \mathfrak{P}(\mathfrak{A}, \ell) = 0$. The autors prove that, if $F(N)$ is the maximal cardinality of admissible sets $\mathfrak{A} \subseteq \{1, \dots, N\}$, then $\limsup_{N\to\infty} F(N)N^{-1/2} \to (143/27)^{1/2}$, thereby slightly sharpening a result due to *E. G. Straus* [J. Math. Sci. 1, 77-80 (1966; Zbl 149.28503)]. The paper also contains a result on infinite admissible sets and some general conjectures.

B. Volkmann (Stuttgart)

Classification:
11B13 Additive bases

Keywords:
maximal cardinality; admissible sets; infinite admissible sets