Zbl 863.11014

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Complete sequences of sets of integer powers. (In English)

Acta Arith. 77, No.2, 133-138 (1996). [ISSN 0065-1036]

For a sequence $S=(s_1,s_2,\dots)$ of positive integers, define $\Sigma(S):=\{\sum_{i=1}^\infty \varepsilon_i s_i : \varepsilon_i=0$ or 1, $\sum_{i=1}^\infty \varepsilon_i<\infty\}$. Call S complete if $\Sigma(S)$ contains all sufficiently large integers. It has been known for some time that if $\gcd(a,b)=1$ then the (nondecreasing) sequence formed from the values $a^s b^t$ with $s_0\le s$, $t_0\le t\le f(s_0,t_0)$ is complete, where s_0 and t_0 are arbitrary, and $f(s_0,t_0)$ is sufficiently large.

In this note we consider the analogous question for sequences formed from pure powers of integers.

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Classification:
11B83 Special sequences of integers and polynomials
11B13 Additive bases

Keywords:
complete sequences; sets of integer powers; bases; sumsets