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A note on a result of Nathanson

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Abstract. Let $h \geq 2$ be a positive integer. Let W be a nonempty subset of $\mathbb{N}$. Denote by $\mathcal{F}^*(W)$ the set of all finite, nonempty subsets of W. Let $A(W)$ be the set of all numbers of the form $\sum_{f \in F} 2^f$, where $F \in \mathcal{F}^*(W)$. Is the asymptotic basis $A = \cup_{i=1}^{h} A(W_i)$ minimal for any partition $\mathbb{N} = W_1 \cup \cdots \cup W_h$? Nathanson [Minimal bases and powers of 2, *Acta Arith.* **49** (1988), 525–532] showed that this is false for $h = 2$. In this paper, we consider this problem for all $h \geq 2$.

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