

Schoen, Tomasz**Multiple set addition in \mathbb{Z}_p .** (English) Zbl 1089.11009

Integers 3, Paper A17, 6 p. (2003).

Summary: It is shown that there exists an absolute constant H such that for every $h > H$, every prime p , and every set $A \subseteq \mathbb{Z}_p$ such that $10 \leq |A| \leq p(\ln h)^{1/2}/(9h^{9/4})$ and $|hA| \leq h^{3/2}|A|/(8(\ln h)^{1/2})$, the set A is contained in an arithmetic progression modulo p of cardinality $\max_{1 \leq j \leq h-1} \frac{|hA| - P_j(|A|)}{h-j} + 1$, where $P_j(n) = \frac{(j+1)j}{2}n - j^2 + 1$. This result can be viewed as a generalization of Freiman's "2.4-theorem".

MSC:**11B13** Additive bases, including sumsetsCited in **1** Review
Cited in **2** Documents**Keywords:**

Freiman theorem

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