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N J Ince* (incenate@mit.edu), 290 Massachusetts Ave., Random Hall room 413, Cambridge, MA 02139. *On the Minimum Number of Subsums of a Zero-Sum-Free Sequence.*

Let G be an abelian group of exponent m . If S is a sequence of m elements of G , and if no subsequence of S sums to zero, what is the least number of distinct sums of subsequences that can occur? This question was first discussed in a paper by W. D. Gao, in which he showed that for groups with exponent m relatively prime to six, the lower bound is always $2m - 1$. In this paper, we conjecture that this lower bound holds for all groups, and we prove that it holds for several infinite families. (Received September 23, 2006)