1106-20-1598 **Paul Baginski*** (pbaginski@fairfield.edu), Fairfield University, Department of Mathematics, 1073 North Benson Rd, Fairfield, CT 06824, and **Abraham Bekele**, **Katie Lynn Rosenberg** and **Benjamin Wright**. *New Developments for the Plus-Minus Davenport Constant.* Preliminary report.

Let G be a finite abelian group. The classical and extensively studied Davenport constant $D(G)$ is the least integer n such that any sequence $S = g_1, g_2, \ldots, g_n$ of n elements of G has a nonempty, zero-sum subsequence, i.e. $\sum_{i\in I} g_i = 0$ for some nonempty $I \subseteq \{1, \ldots, n\}$. An elementary argument shows $D^*(G) \leq D(G) \leq |G|$ for a constant $D^*(G)$ defined simply from the standard decomposition of G as a sum of cyclic groups. While the lower bound is not sharp, it is the correct value in most cases where the exact value of $D(G)$ is known, such as groups of rank ≤ 2 and p-groups.

Recently, several authors have added weights to this zero-sum problem. We concentrate on weights 1 and -1. The plus-minus Davenport constant $D_\pm(G)$ to be the least integer n such that for any sequence $S = g_1, g_2, \ldots, g_n$ of n elements of G, there exist $a_i \in \{-1, 0, 1\}$ not all zero such that $\sum_{i=1}^{n} a_i g_i = 0$. Values are known for far fewer groups, but the known general upper and lower bounds are far closer than for the classical Davenport constant, giving hope that this problem may be more tractable. We will review previous efforts and describe recent progress from the Fairfield University REU during summer 2014. (Received September 14, 2014)