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Endre Szemerédi* (szemer@cs.rutgers.edu). *On subset sums.*

Let $A \subset [1, N]$ be a set of integers. We denote by S_A the collection of partial sums of A :

$$S_A = \left\{ \sum_{x \in B} x \mid B \subset A \right\}.$$

For a positive integer $\ell \leq |A|$, we denote by $\ell^* A$ the collection of partial sums of ℓ elements of A :

$$\ell^* A = \left\{ \sum_{x \in B} x \mid B \subset A, |B| = \ell \right\}.$$

We are going to discuss the structure of $\ell^* A$, and we are going to give a tight bound for the size of A not containing an N element arithmetic progression. Some of the results are joint work with Van Vu. The others are joint work with Simao Herdade. (Received December 12, 2012)