

ON SUBSET SUMS

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

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

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

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

We will discuss the structure of l^*A and give a tight bound of the size of A not containing an N element arithmetic progression.

Some of the results are joint with Van Vu, the others are joint work with Simao Herdade.