Seminar on Combinatorial Computing
September 19, Wednesday, 6:30 p.m.
Room 6417, Graduate Center
365 Fifth Avenue, New York

Non-trivial solutions to a symmetric linear equation in integers

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Abstract

For $k \geq 3$, let $A \subset [1, N]$ be a set not containing a solution to the equation
$$a_1 x_1 + \ldots + a_k x_k = a_1 x_{k+1} + \ldots + a_k x_{2k}$$
in distinct integers. We prove that there is an $\varepsilon > 0$ depending on the coefficients of the equation such that every such A has $O(N^{1/2-\varepsilon})$ elements.

This answers a question of I. Ruzsa.

For further information contact János Pach at pach@cims.nyu.edu, or visit our website
http://www.math.nyu.edu/~pach/public_html/combinatorics_seminar.html