

Ben Green 1

Title: Arithmetic progressions of length 3

Abstract: What is the size of largest subset of the first  $N$  integers not containing three distinct elements  $x, x+d, x+2d$  in arithmetic progression? No-one knows the answer, and moreover the known upper and lower bounds are rather far apart. I will discuss this problem, focussing on some dramatic progress in the last couple of months on a finite field model for the question.