A survey of the polynomial method

Abstract:
The polynomial method is a recent trend in combinatorics which draws from methods of algebraic geometry over finite fields. Instances of the theory have been known for some time, and include Stepanov’s method for counting points on curves over finite fields or Alon’s combinatorial nullstellensatz. In this talk we will follow an expository article of Tao [1] to present basic ideas behind the polynomial method, as well as several applications. Following Tao, “we will assume as little prior knowledge of algebraic geometry as possible.”

Special Note: