The joints problem

Hung-Hsun Yu

Princeton University

Abstract

In 2010, Guth and Katz proved that N lines in $\mathbb{R}^3$ can form at most $O(N^{3/2})$ joints, where a joint is an intersection of three non-coplanar lines. The technique they used is the polynomial method, which was inspired by Dvir and found many other applications in incidence geometry. Many generalizations of the joints problem for lines have been considered afterwards. In this talk, I will talk about the original proof ideas and briefly mention some related results.

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E-mail address:hansonyu@princeton.edu