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* **UCLA Combinatorics Seminar** *

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Date: Thursday, April 14, 1.50-2.50 in Room 5217

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Szemerédi-Trotter type theorems in higher dimensions

Abstract

The Szemerédi-Trotter theorem is a basic result in combinatorial incidence geometry, controlling the number of incidences between a finite collection of points and lines in the plane. By using the polynomial method of Guth and Katz (and in particular, the cell decomposition based on the polynomial ham sandwich theorem), we extend this theorem (with an epsilon loss) to incidences between points and higher-dimensional varieties, in particular almost recovering the complex Szemerédi-Trotter theorem of Toth.

This is joint work with Jozsef Solymosi.