Geometry Seminar
February 5, 2008, Tuesday, 6:00 p.m.
Room 613, Courant Institute
251 Mercer Street, New York

Density theorems for bipartite graphs and related Ramsey-type results

Jacob Fox
Princeton University

Abstract

In this talk, we discuss a new technique which shows how to find a copy of a sparse bipartite graph in a graph of positive density. Our results imply several new bounds for classical problems in Ramsey theory and improve and generalize earlier results of various researchers. The proofs combine simple probabilistic arguments with some combinatorial ideas. In addition, these methods can be used to study edge intersection patterns in topological graphs, make some progress towards the Erdős-Hajnal conjecture on the largest homogeneous set in graphs with a forbidden induced subgraph, and obtain other Ramsey-type results for graphs and hypergraphs.

Joint work with Benny Sudakov.

For further information contact {pach,pollack}@cims.nyu.edu, or visit our website: http://www.math.nyu.edu/seminars/geometry_seminar.html