Seminar on Combinatorial Computing
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Room 6417, Graduate Center
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Graphs drawn with at most 3 crossings per edge

Rados Radoicic
M. I. T., Cambridge

Abstract

We show that if a graph on v vertices can be drawn in the plane so that every edge crosses at most 3 others, then its number of edges cannot exceed $5.5v - 11$. The bound is tight up to a constant. This improves the previous results of Pach and Tóth. We apply this estimate to further improve a result of Ajtai et al. and Leighton, providing a general lower bound for the crossing number of a graph in terms of its number of vertices and edges.

Joint work with J. Pach, G. Tardos and G. Tóth.

For further information contact Janos Pach at pach@cims.nyu.edu, or visit our website: http://www.math.nyu.edu/ pach/combinatorics_seminar.html