Geometry Seminar
November 1, 2005, Tuesday, 6:00 p.m.
Room 613, Courant Institute
251 Mercer Street, New York

The Maximum Number of Edges in k-Quasi-Planar Graphs

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Abstract

A topological graph is called *k-quasi-planar*, if it does not contain k pairwise crossing edges. It is conjectured that for every fixed k the maximum number of edges in a k-quasi-planar graph on n vertices is $O(n)$. We provide, for the first time, an affirmative answer to the case $k = 4$. We also give the simplest proof and the best upper bound known, for the maximum number of edges in 3-quasi-planar graphs on n vertices. Moreover, we show a tight upper bound for 3-quasi-planar graphs in which every pair of edges meet at most once.

Joint work with Gábor Tardos.

For further information contact Janos Pach at pachcims.nyu.edu, or visit our website: http://www.math.nyu.edu/seminars/geometry_seminar.html