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

Maintaining a triangulation of moving points

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Abstract

Let P be a set of n points in the plane, moving along simply-shaped trajectories. We seek *any* triangulation scheme for P which is easy to update at critical events at which it undergoes a discrete change, such that the number of such changes is only nearly quadratic in n (under the assumption of simple motions of the points). The Delaunay triangulation is a popular and useful triangulation, but so far the best bounds on the number of topological changes in the triangulation is only nearly cubic.

We present several recent advances on this problem. (Hint: The situation is still far from satisfactory.)

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