Geometry Seminar
November 16, 2004, Tuesday, 6:00 p.m.
Room 613, Courant Institute
251 Mercer Street, New York

Polyline fitting of planar points under min-sum criteria

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Abstract

Fitting a curve of a certain type to a given set of points in the plane is a basic problem in statistics and has numerous applications. We consider fitting a polyline with k joints under the min-sum criteria with respect to L_1- and L_2-metrics, which are more appropriate measures than uniform and Hausdorff metrics in statistical context. We present efficient algorithms for the 1-joint versions of the problem, and fully polynomial-time approximation schemes for the general k-joint versions.

Joint work with Boris Aronov, Naoki Katoh, Kurt Mehlhorn, and Takeshi Tokuyama.

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