Geometry Seminar
March 26, 2002, Tuesday, 6:00 p.m.
Room 1013, Courant Institute
251 Mercer Street, New York

A constant upper bound for geometric permutations of disjoint unit balls

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Abstract

We prove that a set of n disjoint unit balls in R^d admits at most four distinct geometric permutations when n is large enough, thus settling a long-standing conjecture in combinatorial geometry. The constant bound significantly improves upon the $\Theta(n^{d-1})$ bound for disjoint balls of arbitrary radii.

When time permits, we will also talk about its extension to balls with bounded size disparity and about rectangular boxes. This is a joint work with Meir Katchalski and Subhash Suri.

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