Geometry Seminar
March 21, 2006, Tuesday, 6:00 p.m.
Room 613, Courant Institute
251 Mercer Street, New York

Lines intersecting pairwise disjoint congruent spheres in $\mathbf{R}^d$

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Abstract

In 1957 Ludwig Danzer showed that if a collection of at least 5 disjoint congruent circles in the Euclidean plane have the property that any subset of size 5 can be intersected by some line then there is a line intersecting every member of the collection. He also asked whether an analogous statement holds in d-dimensional Euclidean space where circles are replaced by spheres and the number 5 replaced by some number $k(d)$. I will show how we recently were able to answer Danzer's question by showing that $k(d) < 4d$. This is joint work with Otfried Cheong, Xavier Goaoc, and Sylvain Petitjean.

For further information contact {pach,pollack}@cims.nyu.edu, or visit our website: http://www.math.nyu.edu/seminars/geometry_seminar.html