Geometry and Number Theory Seminar
December 10, 2002, Tuesday, 6:00 p.m.
Room 613, Courant Institute
251 Mercer Street, New York

Expander graphs - where combinatorics and algebra compete and cooperate

Avi Wigderson
IAS and Hebrew University

Abstract

Expansion of graphs can be given equivalent definitions in combinatorial and algebraic terms. This is the most basic connection between combinatorics and algebra illuminated by expanders and the quest to construct them. The talk will survey how fertile this connection has been to both fields, focusing on recent results. In particular, we'll explain the zig-zag product of graphs, how it leads to an elementary combinatorial construction of expanders, and its relation to semi-direct product in groups.

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