Geometry Seminar
March 11, 2003, Tuesday, 6:00 p.m.
Room 613, Courant Institute
251 Mercer Street, New York

The Kneser-Poulsen conjecture for spherical polytopes

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Abstract

The conjecture of Kneser (1955) and Poulsen (1954) in Euclidean plane has just been proved. In this talk we extend the original approach to spherical space by proving the Kneser-Poulsen conjecture for balls of radii $\frac{\pi}{2}$. In fact, we prove more namely, we prove that the volume of intersection (resp., union) of finitely many closed hemispheres in $d-$dimensional spherical space ($d > 0$) does not decrease (resp., does not increase) under arbitrary (continuous or discontinuous) contraction of the center points of the closed hemispheres. This result extends to spherical (flower) polytopes as well. In the talk we will discuss also some corollaries of the above results and mention several open problems. This is a joint work Robert Connelly.

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