Temple University Mathematics Colloquium

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will speak on

Fourier analysis in convex geometry

ABSTRACT: The Fourier analytic approach to the study of sections and projections of convex bodies has recently been developed. The main idea is to express different properties of convex bodies in terms of the Fourier transform and then use methods of harmonic analysis to solve geometric problems. This approach has led to several results, including an analytic solution and various generalizations of the Busemann–Petty problem, asking whether bodies with uniformly larger central hyperplane sections necessarily have greater volume. Another application is to intersection bodies and their connections with the theory of L_p–spaces. In this talk we outline the main features and results of the Fourier approach to convexity.

Monday, 2 March 2009
Lecture at 4:00 pm
Coffee, tea, and refreshments from 3-5 pm
Room 617, Wachman Building
Department of Mathematics