The College of Arts & Sciences
Department of Mathematical Sciences

Colloquium

Nam Le

Indiana University

Thursday, April 24th
Room 220, 60 West Charlton
4:00 – 5:00 pm

The Brunn-Minkowski inequality for the Monge-Ampere eigenvalue and smoothness of the eigenfunctions

The original form of the Brunn-Minkowski inequality involves volumes of convex bodies in R^n and states that the n th root of the volume is a concave function with respect to the Minkowski addition of convex bodies.

In 1976, Brascamp and Lieb proved a Brunn-Minkowski inequality for the first eigenvalue of the Laplacian. In this talk, I will discuss a nonlinear analogue of the above result, that is, the Brunn-Minkowski inequality for the eigenvalue of the Monge-Ampere operator. For this purpose, I will first introduce the Monge-Ampere eigenvalue problem on general bounded convex domains. Then, I will present several properties of the eigenvalues and related analysis concerning smoothness of the eigenfunctions.

Refreshments will be served 3:15 – 3:45 pm in the Faculty & Graduate Student Lounge Room 4118 French Hall West

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