

A probabilistic approach to intersection bodies

Peter Pivovarov (University of Missouri)

The Busemann intersection inequality is a fundamental isoperimetric inequality for intersection bodies. A distinguishing feature is that it holds even when the intersection body is not convex, but merely star-shaped. I will discuss a probabilistic approach to generating intersection bodies that is useful for establishing L_p versions of the Busemann intersection inequality. The approach relies on new representations of star-shaped sets as special averages of convex sets. Based on joint work with R. Adamczak, G. Paouris, and P. Simanjuntak.