Minerva Mini Course
Fall 2022

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Minerva Distinguished Visitor

October 28
November 4
November 11
November 18
December 2

Convexity in High Dimensions

We will discuss recent progress in the understanding of the isoperimetric problem for high-dimensional convex sets, and the resolution up to polylogarithmic factors of Bourgain's slicing problem and Kannan-Lovasz-Simonovits isoperimetric conjecture. The first of the five lectures will be an introduction to this research direction and to its main theme, that convexity in high dimension is a source of regularity, comparable to statistical independence. The remaining lectures will be devoted to proofs and to techniques that are useful in convex geometry (and beyond!), such as convex localization, optimalb transport with the Monge cost, Bochner identities and curvature, heat flow, and Eldan's stochastic localization.

All Talks at 4pm in Fine 314