



CONGRESO DE JÓVENES INVESTIGADORES

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The slicing problem, the variance conjecture, and the spectral gap conjecture

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We will present three well known open problems in the theory of convex bodies and, more generally, in the study of log-concave measures. These three problems are the slicing problem, also known as the hyperplane conjecture, the variance conjecture (which first appeared in the study of the central limit problem for convex bodies), and the Kannan-Lovász-Simonovits spectral gap conjecture. We will explain the relation between them and will show our recent results in the study of a generalized variance conjecture for hyperplane projections of the ℓ_p^n -balls.

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