1. **Record Nr.** UNINA9910141918003321

   Autore Alonso-Gutierrez David

   Titolo Approaching the Kannan-Lovász-Simonovits and Variance Conjectures / / by David Alonso-Gutiérrez, Jesús Bastero

   Pubbl/distr/stampa Cham : , : Springer International Publishing : , : Imprint : Springer, , 2015

   ISBN 3-319-13263-6

   Edizione [1st ed. 2015.]

   Descrizione fisica 1 online resource (X, 148 p.)

   Collana Lecture Notes in Mathematics, , 0075-8434 ; ; 2131

   Disciplina 515.7

   Soggetti Functional analysis
   Convex geometry
   Discrete geometry
   Probabilities
   Functional Analysis
   Convex and Discrete Geometry
   Probability Theory and Stochastic Processes

   Lingua di pubblicazione Inglese

   Formato Materiale a stampa

   Livello bibliografico Monografia

   Note generali Bibliographic Level Mode of Issuance: Monograph

   Nota di contenuto The Conjectures -- Main Examples -- Relating the Conjectures -- Appendix -- Index.

   Sommario/riassunto Focusing on two central conjectures from the field of Asymptotic Geometric Analysis, the Kannan-Lovász-Simonovits spectral gap conjecture and the variance conjecture, these Lecture Notes present the theory in an accessible way, so that interested readers, even those who are not experts in the field, will be able to appreciate the topics treated. Employing a style suitable for professionals with little background in analysis, geometry or probability, the work goes directly to the connection between isoperimetric-type inequalities and functional inequalities, allowing readers to quickly access the core of these conjectures. In addition, four recent and important results concerning this theory are presented. The first two are theorems attributed to Eldan-Klartag and Ball-Nguyen, which relate the variance and the KLS conjectures, respectively, to the hyperplane conjecture. The remaining two present in detail the main ideas needed to prove the best known

estimate for the thin-shell width given by Guédon-Milman, and an approach to Eldan's work on the connection between the thin-shell width and the KLS conjecture.