

1. Record Nr.	UNISA996466482503316
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Titolo	Large Random Matrices: Lectures on Macroscopic Asymptotics [[electronic resource]] : École d'Été de Probabilités de Saint-Flour XXXVI – 2006 // by Alice Guionnet
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2009
ISBN	3-540-69897-3
Edizione	[1st ed. 2009.]
Descrizione fisica	1 online resource (XII, 294 p. 13 illus.)
Collana	École d'Été de Probabilités de Saint-Flour, , 0721-5363 ; ; 1957
Disciplina	512.9434
Soggetti	Discrete mathematics Probabilities Algebra Matrix theory Functional analysis Combinatorics Discrete Mathematics Probability Theory and Stochastic Processes Linear and Multilinear Algebras, Matrix Theory Functional Analysis
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Wigner matrices and moments estimates -- Wigner's theorem -- Wigner's matrices; more moments estimates -- Words in several independent Wigner matrices -- Wigner matrices and concentration inequalities -- Concentration inequalities and logarithmic Sobolev inequalities -- Generalizations -- Concentration inequalities for random matrices -- Matrix models -- Maps and Gaussian calculus -- First-order expansion -- Second-order expansion for the free energy -- Eigenvalues of Gaussian Wigner matrices and large deviations -- Large deviations for the law of the spectral measure of Gaussian Wigner's matrices -- Large Deviations of the Maximum Eigenvalue -- Stochastic calculus -- Stochastic analysis for random matrices -- Large deviation principle for the law of the spectral measure of shifted Wigner

matrices -- Asymptotics of Harish-Chandra-Itzykson-Zuber integrals and of Schur polynomials -- Asymptotics of some matrix integrals -- Free probability -- Free probability setting -- Freeness -- Free entropy -- Basics of matrices -- Basics of probability theory.

Sommario/riassunto

Random matrix theory has developed in the last few years, in connection with various fields of mathematics and physics. These notes emphasize the relation with the problem of enumerating complicated graphs, and the related large deviations questions. Such questions are also closely related with the asymptotic distribution of matrices, which is naturally defined in the context of free probability and operator algebra. The material of this volume is based on a series of nine lectures given at the Saint-Flour Probability Summer School 2006. Lectures were also given by Maury Bramson and Steffen Lauritzen.
