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| Autore                  | Wang C.B   |
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| Edizione                | [1st ed. 2013.]  |
| Descrizione fisica      | 1 online resource (x, 219 pages) : illustrations   |
| Collana                 | Gale eBooks  |
| Disciplina              | 510<br>515.5<br>519<br>530.15  |
| Soggetti                | Phase transformations (Statistical physics)<br>Eigenfunctions<br>Matrix analytic methods<br>Quantum theory - Mathematics   |
| Lingua di pubblicazione | Inglese  |
| Formato                 | Materiale a stampa   |
| Livello bibliografico   | Monografia   |
| Note generali           | Description based upon print version of record.  |
| Nota di bibliografia    | Includes bibliographical references and index.   |
| Nota di contenuto       | Introduction -- Densities in Hermitian Matrix Models -- Bifurcation Transitions and Expansions -- Large-N Transitions and Critical Phenomena -- Densities in Unitary Matrix Models -- Transitions in the Unitary Matrix Models -- Marcenko-Pastur Distribution and McKay's Law.  |
| Sommario/riassunto      | The eigenvalue densities in various matrix models in quantum chromodynamics (QCD) are ultimately unified in this book by a unified model derived from the integrable systems. Many new density models and free energy functions are consequently solved and presented. The phase transition models including critical phenomena with fractional power-law for the discontinuities of the free energies in the matrix models are systematically classified by means of a clear and rigorous mathematical demonstration. The methods here will stimulate new research directions such as the important Seiberg-Witten differential in Seiberg-Witten theory for solving the mass gap problem in quantum Yang-Mills theory. The formulations and results will benefit researchers and students in the fields of phase transitions, integrable systems, matrix models and Seiberg-Witten theory. |

