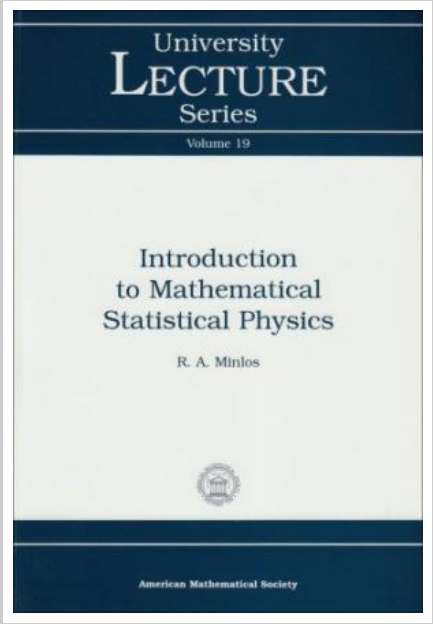

Introduction to Mathematical Statistical Physics

By R. A. Minlos

American Mathematical Society. Paperback. Book Condition: new. BRAND NEW, Introduction to Mathematical Statistical Physics, R. A. Minlos, This book presents a mathematically rigorous approach to the main ideas and phenomena of statistical physics. The introduction addresses the physical motivation, focussing on the basic concept of modern statistical physics, that is the notion of Gibbsian random fields. Properties of Gibbsian fields are analyzed in two ranges of physical parameters: 'regular' (corresponding to high-temperature and low-density regimes) where no phase transition is exhibited, and 'singular' (low temperature regimes) where such transitions occur.Next, a detailed approach to the analysis of the phenomena of phase transitions of the first kind, the Pirogov-Sinai theory, is presented. The author discusses this theory in a general way and illustrates it with the example of a lattice gas with three types of particles. The conclusion gives a brief review of recent developments arising from this theory. The volume is written for the beginner, yet advanced students will benefit from it as well. The book will serve nicely as a supplementary textbook for course study. The prerequisites are an elementary knowledge of mechanics, probability theory and functional analysis.

Reviews

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