



Mathematical Foundations of Statistical Mechanics

By Mathematics

Dover Publications. Paperback. Book Condition: New. Paperback. 206 pages. Dimensions: 8.1in. x 5.3in. x 0.6in. The translation of this important book brings to the English-speaking mathematician and mathematical physicist a thoroughly up-to-date introduction to statistical mechanics. It offers a precise and mathematically rigorous formulation of the problems of statistical mechanics, as opposed to the non-rigorous discussion presented in most other works. It provides analytical tools needed to replace many of the cumbersome concepts and devices commonly used for establishing basic formulae, and it furnishes the mathematician with a logical step-by-step introduction, which will enable him to master the elements of statistical mechanics in the shortest possible time. After a historical sketch, the author discusses the geometry and kinematics of the phase space, with the theorems of Liouville and Birkhoff; the ergodic problem (in the sense of replacing time averages by phase averages); the theory of probability; central limit theorem; ideal monatomic gas; foundation of thermodynamics, and dispersion and distribution of sum functions. An excellent introduction to the difficult and important discipline of Statistical Mechanics. It is clear, concise, and rigorous. There is a very good chapter on the ergodic theorem (with a complete proof!) and . . . a highly lucid...



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