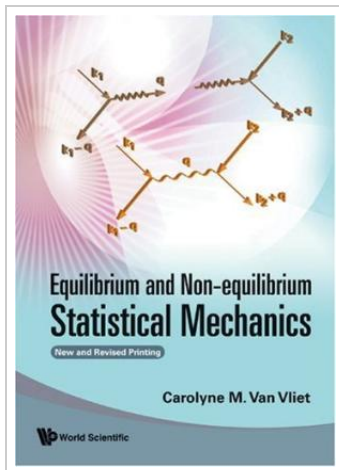




Equilibrium and Non-Equilibrium Statistical Mechanics (New & revised ed)

By Carolyn Van Vliet

World Scientific Publishing Co Pte Ltd. Paperback. Condition: new. BRAND NEW, Equilibrium and Non-Equilibrium Statistical Mechanics (New & revised ed), Carolyn Van Vliet, This book is destined to be the standard graduate text in this fascinating field that encompasses our current understanding of the ensemble approach to many-body physics, phase transitions and other thermal phenomena, as well as the quantum foundations of linear response, kinetic equations and stochastic processes. The historical methods of J Willard Gibbs and Ludwig Boltzmann, applied to the quantum description rather than phase space, are featured. The tools for computations in the micro-canonical, canonical and grand-canonical ensembles are carefully developed and then applied to a variety of classical and standard quantum situations. After the language of second quantization has been introduced, strongly interacting systems, such as quantum liquids, superfluids and superconductivity, are treated in detail. For the connoisseur, there is a section on diagrammatic methods and applications. In the second part dealing with non-equilibrium processes, the emphasis is on the quantum foundations of Markovian behavior and irreversibility via the Pauli-Van Hove master equation. Justifiable linear response expressions and the quantum-Boltzmann approach are discussed and applied to various condensed matter problems. From this basis, the Casimir-Onsager relations...



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