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Sommario/riassunto	The book is devoted to the fundamental aspects of the non-equilibrium statistical mechanics of many-particle systems. The concept of Zubarev's approach, which generalizes the notion of Gibbs' ensembles, and introduces a nonequilibrium statistical operator, providing an adequate basis for dealing with strongly correlated systems that are governed by nonperturbative phenomena, such as the formation of bound states, quantum condensates and the instability of the vacuum. Besides a general introduction to the formalism, this book contains contributions devoted to the applications of Zubarev's method to the solution of modern problems in different fields of physics: transport theory, hydrodynamics, high-energy physics, quark-gluon plasma and hadron production in heavy-ion collisions. The book provides valuable information for researchers and students in these fields, requiring powerful concepts to solve fundamental problems of non-equilibrium phenomena in strongly