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Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Introduction -- I Nonrelativistic Theories -- Thermodynamic Theory of Irreversible Processes -- Boltzmann Kinetic Equation -- Equilibrium Ensemble Method -- Boltzmann-like Equation for Moderately Dense Gases -- Kinetic Theory of a Simple Dense Fluid -- Kinetic Theory of a Dense Simple Fluid Mixture -- Classical Scattering Theory in Phase Space -- Generalized Hydrodynamics and Transport Processes -- II Essays on Equilibrium Theories -- Molecular Theory of Liquid Mixtures: Equilibrium Properties -- Equilibrium Pair Correlation Functions.
Sommario/riassunto	This book presents the fundamentals of irreversible thermodynamics for nonlinear transport processes in gases and liquids, as well as for generalized hydrodynamics extending the classical hydrodynamics of Navier, Stokes, Fourier, and Fick. Together with its companion volume on relativistic theories, it provides a comprehensive picture of the kinetic theory formulated from the viewpoint of nonequilibrium

ensembles in both nonrelativistic and, in Vol. 2, relativistic contexts. Theories of macroscopic irreversible processes must strictly conform to the thermodynamic laws at every step and in all approximations that enter their derivation from the mechanical principles. Upholding this as the inviolable tenet, the author develops theories of irreversible transport processes in fluids (gases or liquids) on the basis of irreversible kinetic equations satisfying the H theorem. They apply regardless of whether the processes are near to or far removed from equilibrium, or whether they are linear or nonlinear with respect to macroscopic fluxes or thermodynamic forces. Both irreversible Boltzmann and generalized Boltzmann equations are used for deriving theories of irreversible transport equations and generalized hydrodynamic equations, which rigorously conform to the tenet. All observables described by the so-formulated theories therefore also strictly obey the tenet.