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Soggetti	Phase transitions (Statistical physics) Statistical physics Thermodynamics Heat engineering Heat transfer Mass transfer Materials—Surfaces Thin films Phase Transitions and Multiphase Systems Statistical Physics and Dynamical Systems Engineering Thermodynamics, Heat and Mass Transfer Applications of Nonlinear Dynamics and Chaos Theory Surfaces and Interfaces, Thin Films
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Preface -- Phase transition ‘liquid – vapor’ -- The statistical approach -- The kinetic approach -- Numerical experiments: molecular dynamics simulations -- Velocity distribution function of evaporated atoms -- Total fluxes from the evaporation surface -- The evaporation coefficient -- Temperature jump on the evaporation surface -- Evaporation in the processes of boiling and cavitation -- Appendix A. Distribution functions -- Appendix B. Special functions.
Sommario/riassunto	This monograph discusses the essential principles of the evaporation process by looking at it at the molecular and atomic level. In the first part methods of statistical physics, physical kinetics and numerical

modeling are outlined including the Maxwell’s distribution function, the Boltzmann kinetic equation, the Vlasov approach, and the CUDA technique. The distribution functions of evaporating particles are then defined. Experimental results on the evaporation coefficient and the temperature jump on the evaporation surface are critically reviewed and compared to the theory and numerical results presented in previous chapters. The book ends with a chapter devoted to evaporation in different processes, such as boiling and cavitation. This monograph addresses graduate students and researchers working on phase transitions and related fields.