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Titolo	Non-equilibrium Evaporation and Condensation Processes : Analytical Solutions / / by Yuri B. Zudin
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ISBN	3-319-67306-8
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Descrizione fisica	1 online resource (XVI, 217 p. 63 illus.)
Collana	Mathematical Engineering, , 2192-4732
Disciplina	621.4021
Soggetti	Thermodynamics Heat engineering Heat - Transmission Mass transfer Mathematical models Mathematical physics Engineering Thermodynamics, Heat and Mass Transfer Mathematical Modeling and Industrial Mathematics Mathematical Applications in the Physical Sciences
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	1 Introduction to the Problem -- 2 Nonequilibrium Effects on the Phase Interface -- 3 Approximate Kinetic Analysis of Strong Evaporation -- 4 Semi-Empirical Model of Strong Evaporation -- 5 Approximate Kinetic Analysis of Strong Condensation -- 6 Linear Kinetic Analysis of Evaporation and Condensation -- 7 Binary Schemes of Vapor Bubble Growth -- 8 Pressure Blocking Effect in a Growing Vapor Bubble -- 9 Evaporating Meniscus on the Interface of Three Phases -- 10 Kinetic Molecular Effects with Spheroidal State -- 11 Flow Around a Cylinder (Vapor Condensation) -- Appendix A: Heat Transfer During Film Boiling -- Appendix B: Heat Transfer in a Pebble Bed -- Index. mes New Roman","serif"; mso-bidi-font-family:SMinionPlus;mso-ansi-language:EN-US"> .
Sommario/riassunto	This monograph presents a comprehensive treatment of analytical solutions to problems in the area of non-equilibrium evaporation and

condensation processes. The book covers, among others, topics such as systems of conservation equations for molecular fluxes of mass, momentum and energy within the Knudsen layer, spherical growth of vapor bubbles in volumes of highly superheated liquid. The target audience primarily comprises research experts in the field of thermodynamics and fluid dynamics, but the book may also be beneficial for graduate students alike.
