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Soggetti	Computer science Computer hardware E-commerce Database management Computer communication systems Application software Popular Computer Science Computer Hardware e-Commerce/e-business Database Management Computer Communication Networks Information Systems Applications (incl. Internet)
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Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Laminar Free Convection -- Basic Conservation Equations for Laminar Free Convection -- Brief Review of Previous Method for Analysis of Laminar Free Convection -- Laminar Free Convection of Monatomic and Diatomic Gases, Air, and Water Vapor -- Laminar Free Convection of Polyatomic Gas -- Laminar Free Convection of Liquid -- Heat Transfer

Deviation of Laminar Free Convection Caused by Boussinesq Approximation -- Experimental Measurements of Free Convection with Large Temperature Difference -- Relationship on Laminar Free Convection and Heat Transfer Between Inclined and Vertical Cases -- Film Boiling and Condensation -- Laminar Film Boiling of Saturated Liquid -- Laminar Film Boiling of Subcooled Liquid -- Laminar Film Condensation of Saturated Vapor -- Effects of Various Physical Conditions on Film Condensations -- Laminar Film Condensation of Superheated Vapor -- Falling Film Flow of Non-Newtonian Fluids -- Hydrodynamics of Falling Film Flow of Non-Newtonian Power-Law Fluids -- Pseudosimilarity and Boundary Layer Thickness for Non-Newtonian Falling Film Flow -- Heat Transfer of the Falling Film Flow.

Sommario/riassunto

Welcome to Free Convection Film Flows and Heat Transfer! Free convection ?lm ?ows occur in many industrial processes. However, engineers still have to deal with many unresolved problems. This book systematically summarizes my recent research results that have been referred to and cited by many other researchersinthis?eld. Thepurposeofthisbookistoprovideapracticalguide to university students, graduate students, design engineers, researchers, and scientistswhowishtofurtherunderstandthecharacteristicsoffreeconvection ?lm ?ows and heat transfer. I hope this book will serve as a useful tool for them, as well as a guide to future research. This book includes three related parts (1) accelerating convective bou- ary layers of Newtonian ?uids, (2) accelerating ?lm boiling and condensation of Newtonian ?uids, and (3) accelerating ?lm ?ows of non-Newtonian pow-law ?uids. These phenomena are all caused by buoyancy or gravity, and can be summed up in terms of the free convection ?lm ?ows. In addition, the free convection ?lm ?ows of Newtonian ?uids can be taken as a special case of non-Newtonian power-law ?uids.