Computational Methods for Heat and Mass Transfer (Series in Computational and Physical Processes in Mechanics and Thermal Sciences)

Pradip Majumdar

Computational Methods for Heat and Mass Transfer (Series in Computational and Physical Processes in Mechanics and Thermal Sciences)

Pradip Majumdar

Computational Methods for Heat and Mass Transfer (Series in Computational and Physical Processes in Mechanics and Thermal Sciences) Pradip Majumdar
The advent of high-speed computers has encouraged a growing demand for newly graduated engineers to possess the basic skills of computational methods for heat and mass transfer and fluid dynamics. Computational fluid dynamics and heat transfer, as well as finite element codes, are standard tools in the computer-aided design and analysis of processes and products involving coupled transport and multi-physic phenomena. This textbook introduces the fundamentals of two important computational techniques for solving heat and mass transfer and fluid flow problems: finite difference and finite element methods.

The objective of the book is to help the students thoroughly understand the basic concepts and procedures of fluid dynamics, heat and mass transfer and implement computational methodology into a computer code and solve more complex problems on their own. Theory and practice are combined in a simple and straightforward manner. Classic problems in heat transfer, mass transfer, and fluid flows are solved and illustrated through step-by-step derivations and numerous figures. End-of-chapter problems are provided at the end of every chapter for extra practice and homework assignments.

The book is divided into three parts: Part One contains a review of basic equations of heat transfer, mass transfer and fluid dynamics; concepts of numerical approximations and errors; numerical solution techniques for systems of linear algebraic equations; and numerical integrations and quadrature formulas. (The last two topics are included primarily for students who have had no prior course on numerical analysis). Part Two introduces the finite difference/control volume method. Part Three presents the finite element method.

As an introductory text, this book is appropriate for senior undergraduate and first-year graduate level courses. Students taking independent study can use the text as a comprehensive reference guide. Others who will find it a useful resource include practicing engineers and scientists developing their own codes and using commercial codes for the analysis and design of processes and products involving heat and mass transfer and fluid dynamics.

Download and Read Free Online Computational Methods for Heat and Mass Transfer (Series in Computational and Physical Processes in Mechanics and Thermal Sciences) Pradip Majumdar

information since it relief your hunger of information. Getting deeper you on it getting knowledge more you know or else you who still having little bit of digest in reading this Computational Methods for Heat and Mass Transfer (Series in Computational and Physical Processes in Mechanics and Thermal Sciences) can be the light food for yourself because the information inside this kind of book is easy to get by simply anyone. These books produce itself in the form and that is reachable by anyone, yeah I mean in the e-book application form. People who think that in e-book form make them feel tired even dizzy this reserve is the answer. So there is absolutely no in reading a book especially this one. You can find actually looking for. It should be here for an individual. So , don't miss this! Just read this e-book style for your better life and also knowledge.

Download and Read Online Computational Methods for Heat and Mass Transfer (Series in Computational and Physical Processes in Mechanics and Thermal Sciences) Pradip Majumdar #QOECW9KZNTL

Read Computational Methods for Heat and Mass Transfer (Series in Computational and Physical Processes in Mechanics and Thermal Sciences) by Pradip Majumdar for online ebook

Computational Methods for Heat and Mass Transfer (Series in Computational and Physical Processes in Mechanics and Thermal Sciences) by Pradip Majumdar Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Computational Methods for Heat and Mass Transfer (Series in Computational and Physical Processes in Mechanics and Thermal Sciences) by Pradip Majumdar books to read online.

Online Computational Methods for Heat and Mass Transfer (Series in Computational and Physical Processes in Mechanics and Thermal Sciences) by Pradip Majumdar ebook PDF download

Computational Methods for Heat and Mass Transfer (Series in Computational and Physical Processes in Mechanics and Thermal Sciences) by Pradip Majumdar Doc

Computational Methods for Heat and Mass Transfer (Series in Computational and Physical Processes in Mechanics and Thermal Sciences) by Pradip Majumdar Mobipocket

Computational Methods for Heat and Mass Transfer (Series in Computational and Physical Processes in Mechanics and Thermal Sciences) by Pradip Majumdar EPub