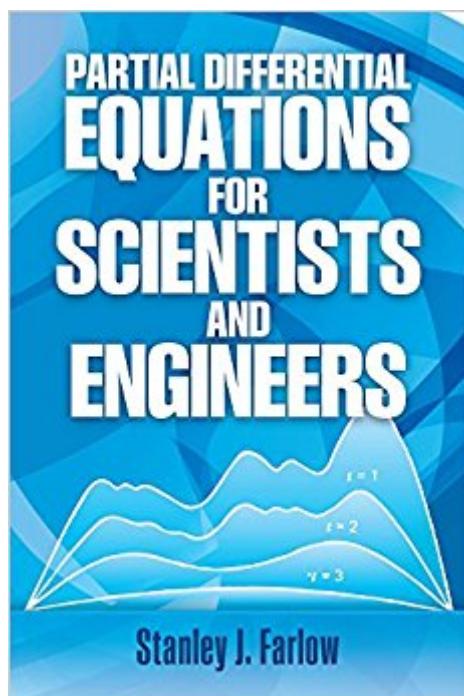The book was found

Partial Differential Equations For Scientists And Engineers (Dover Books On Mathematics)

Synopsis

Most physical phenomena, whether in the domain of fluid dynamics, electricity, magnetism, mechanics, optics, or heat flow, can be described in general by partial differential equations. Indeed, such equations are crucial to mathematical physics. Although simplifications can be made that reduce these equations to ordinary differential equations, nevertheless the complete description of physical systems resides in the general area of partial differential equations.This highly useful text shows the reader how to formulate a partial differential equation from the physical problem (constructing the mathematical model) and how to solve the equation (along with initial and boundary conditions). Written for advanced undergraduate and graduate students, as well as professionals working in the applied sciences, this clearly written book offers realistic, practical coverage of diffusion-type problems, hyperbolic-type problems, elliptic-type problems, and numerical and approximate methods. Each chapter contains a selection of relevant problems (answers are provided) and suggestions for further reading.

Customer Reviews

Partial Differential Equations & BeyondStanley J. Farlow's Partial Differential Equations for Scientists and Engineers is one of the most widely used textbooks that Dover has ever published. Readers of the many reviews will easily find out why. Jerry, as Professor Farlow is known to the mathematical community, has written many other fine texts Ã¢â¬â¢ on calculus, finite mathematics, modeling, and other topics.We followed up the 1993 Dover edition of the partial differential equations title in 2006 with a new edition of his An Introduction toDifferential Equations and Their Applications. Readers who wonder if mathematicians have a sense of humor might search the internet for a copy of Jerry's The Girl Who Ate Equations for Breakfast (Aardvark Press, 1998).Critical Acclaim for Partial Differential Equations for Scientists and Engineers:"This book is primarily intended for students in areas other than mathematics who are studying partial differential equations at the undergraduate level. The book is unusual in that the material is organized into 47 semi-independent lessonsrather than the more usual chapter-by-chapter approach."An appealing feature of the book is the way in which the purpose of each lesson is clearly stated at the outset while the student will find the problems placed at the end of each lesson particularly helpful. The first appendix consists of integral transform tables whereas the second is in the form of a crossword puzzle which the diligent student should be able to complete after a thorough reading of the text."Students (and teachers) in this area will find the book useful as the subject matter is clearly explained. The author and publishers are to be complimented for the quality of presentation of the

material." Ã¢ ¬â • K. Morgan, University College, Swansea

Applied Partial Differential Equations with Fourier Series and Boundary Value Problems (5th Edition) (Featured Titles for Partial Differential Equations) Partial Differential Equations for Scientists and Engineers (Dover Books on Mathematics) Partial Differential Equations of Mathematical Physics and Integral Equations (Dover Books on Mathematics) Numerical Partial Differential Equations: Conservation Laws and Elliptic Equations (Texts in Applied Mathematics) (v. 33) Hilbert Space Methods in Partial Differential Equations (Dover Books on Mathematics) Differential Equations and Boundary Value Problems: Computing and Modeling (5th Edition) (Edwards/Penney/Calvis Differential Equations) [Differential Equations, Dynamical Systems, and an Introduction to Chaos [DIFFERENTIAL EQUATIONS, DYNAMICAL SYSTEMS, AND AN INTRODUCTION TO CHAOS BY Hirsch, Morris W. (Author) Mar-26-2012] By Hirsch, Morris W. (Author) [2012) [Paperback] Student's Solutions Manual for Fundamentals of Differential Equations 8e and Fundamentals of Differential Equations and Boundary Value Problems 6e Differential Equations: Computing and Modeling (5th Edition) (Edwards/Penney/Calvis Differential Equations) Fundamentals of Differential Equations (8th Edition) (Featured Titles for Differential Equations) Student Solutions Manual to accompany Boyce Elementary Differential Equations 10e & Elementary Differential Equations with Boundary Value Problems 10e Finite Difference Methods for Ordinary and Partial Differential Equations: Steady-State and Time-Dependent Problems (Classics in Applied Mathematics) Numerical Solution of Partial Differential Equations: Finite Difference Methods (Oxford Applied Mathematics and Computing Science Series) Introduction to Partial Differential Equations (Undergraduate Texts in Mathematics) Numerical Partial Differential Equations: Finite Difference Methods (Texts in Applied Mathematics) Partial Differential Equations with Numerical Methods (Texts in Applied Mathematics) Physics for Scientists and Engineers: Vol. 2: Electricity and Magnetism, Light (Physics, for Scientists & Engineers, Chapters 22-35) Physics for Scientists and Engineers with Modern Physics: Volume II (3rd Edition) (Physics for Scientists & Engineers) Monotone Operators in Banach Space and Nonlinear Partial Differential Equations (Mathematical Surveys and Monographs) Boundary Value Problems, Sixth Edition: and Partial Differential Equations

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