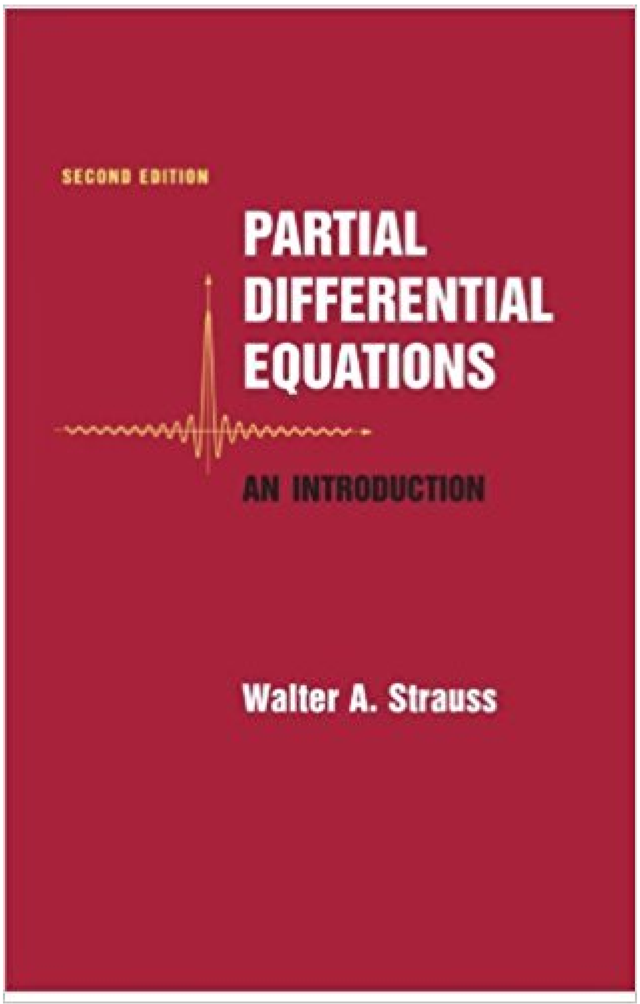
Partial Differential Equations: An Introduction, 2nd Edition



Synopsis

Our understanding of the fundamental processes of the natural world is based to a large extent on partial differential equations (PDEs). The second edition of Partial Differential Equations provides an introduction to the basic properties of PDEs and the ideas and techniques that have proven useful in analyzing them. It provides the student a broad perspective on the subject, illustrates the incredibly rich variety of phenomena encompassed by it, and imparts a working knowledge of the most important techniques of analysis of the solutions of the equations. In this book mathematical jargon is minimized. Our focus is on the three most classical PDEs, the wave, heat and Lapace equations. Advanced concepts are introduced frequently but with the least possible technicalities. The book is flexibly designed for juniors, seniors or beginning graduate students in science, engineering or mathematics. --This text refers to the Hardcover edition.

Book Information

File Size: 7367 KB

Print Length: 464 pages

Simultaneous Device Usage: Up to 3 simultaneous devices, per publisher limits

Publisher: Wiley; 2 edition (December 1, 2011)

Publication Date: December 1, 2011

Sold by:Â Digital Services LLC

Language: English

ASIN: B006QYX3FI

Text-to-Speech: Not enabled

X-Ray: Not Enabled

Word Wise: Not Enabled

Lending: Not Enabled

Enhanced Typesetting: Not Enabled

Best Sellers Rank: #346,978 Paid in Kindle Store (See Top 100 Paid in Kindle Store) #10 inÂ Kindle Store > Kindle eBooks > Nonfiction > Science > Mathematics > Applied > Linear Programming #57 inÂ Books > Science & Math > Mathematics > Applied > Linear Programming #195 inÂ Books > Science & Math > Mathematics > Applied > Differential Equations

Customer Reviews

I’ve spent the past seven years or so working on analytical and numerical solutions to the various partial differential equations that price financial derivatives. My focus has been very much on getting and extending useable answers. When it comes to PDEs specifically, I'm mostly self-taught, but my background in real variables and functional analysis is solid (viz., one and two graduate semesters, respectively, at Pennsylvania and Harvard).In some ares of mathematics, a single, classic text whose exposition is top-notch, or that inspires despite its exposition, manages to cover the field well. For example, I'm thinking of books like Halmos (Measure Theory) or Segal and Kunze in real variables and integration theory; Lax or Reed and Simon 1 (Functional Analysis) in functional analysis; Lang in algebra; and Kelley or Milnor (Topology from the Differentiable Viewpoint) in topology. (Full citations are in Listmania; see my profile. All of these books are great texts for very different reasons, as my Listmania remarks suggest.)I've yet to find a single reference for PDEs that addresses all of my questions, but a number of books taken together manage nicely. I jumped around in these books when I was learning the subject, and I'm convinced that such cherry-picking is the best approach for PDEs, since the field is so broad in theory and applications. The downsides, of course, are expense and potential confusion from conflicting notation and approach.

Applied Partial Differential Equations with Fourier Series and Boundary Value Problems (5th Edition) (Featured Titles for Partial Differential Equations) Student Solutions Manual to accompany Partial Differential Equations: An Introduction, 2nd Edition Partial Differential Equations: An Introduction, 2nd Edition Differential Equations and Boundary Value Problems: Computing and Modeling (5th Edition) (Edwards/Penney/Calvis Differential Equations) Differential Equations: Computing and Modeling (5th Edition) (Edwards/Penney/Calvis Differential Equations) Fundamentals of Differential Equations (8th Edition) (Featured Titles for Differential Equations) Fundamentals of Differential Equations and Boundary Value Problems (6th Edition) (Featured Titles for Differential Equations) Student Solutions Manual for Differential Equations: Computing and Modeling and Differential Equations and Boundary Value Problems: Computing and Modeling Partial Differential Equations with Fourier Series and Boundary Value Problems (2nd Edition) Partial Differential Equations: An Introduction Introduction to Partial Differential Equations (Undergraduate Texts in Mathematics) An Introduction to Partial Differential Equations with MATLAB (Chapman & Hall/CRC Applied Mathematics & Nonlinear Science) Applied Partial Differential Equations: With Fourier Series and Boundary Value Problems, 4th Edition Partial Differential Equations: Analytical and Numerical Methods, Second Edition Partial Differential Equations, Second Edition: Theory and Technique Geometric Partial Differential Equations and Image Analysis Partial Differential Equations (Graduate Studies in Mathematics, Vol. 19) Partial Differential Equations (Applied Mathematical Sciences) (v. 1) Numerical Partial Differential Equations: Finite Difference Methods

(Texts in Applied Mathematics) Computational Partial Differential Equations Using MATLAB (Chapman & Hall/CRC Applied Mathematics & Nonlinear Science)