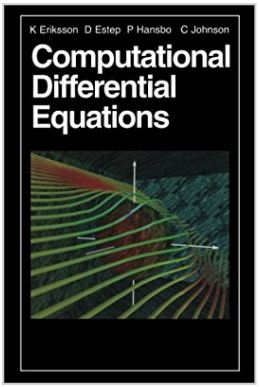

Computational Differential Equations

By K. Eriksson, D. Estep, P. Hansbo, C. Johnson

Computational Differential Equations By K. Eriksson, D. Estep, P. Hansbo, C. Johnson

This is a two volume introduction to the computational solution of differential equations using a unified approach organized around the adaptive finite element method. It presents a synthesis of mathematical modeling, analysis, and computation. The goal is to provide the student with theoretical and practical tools useful for addressing the basic questions of computational mathematical modeling in science and engineering: How can we model physical phenomena using differential equations? What are the properties of solutions of differential equations? How do we compute solutions in practice? How do we estimate and control the accuracy of computed solutions? The first volume begins by developing the basic issues at an elementary level in the context of a set of model problems in ordinary differential equations. The authors then widen the scope to cover the basic classes of linear partial differential equations modeling elasticity, heat flow, wave propagation and convection-diffusion-absorption problems. The book concludes with a chapter on the abstract framework of the finite element method for differential equations. Volume 2, to be published in early 1997, extends the scope to nonlinear differential equations and systems of equations modeling a variety of phenomena such as reaction-diffusion, fluid flow, many-body dynamics and reaches the frontiers of research. It also addresses practical implementation issues in detail. These volumes are ideal for undergraduates studying numerical analysis or differential equations. This is a new edition of a 1988 text of 275 pages by C. Johnson.

Computational Differential Equations

By K. Eriksson, D. Estep, P. Hansbo, C. Johnson

Computational Differential Equations By K. Eriksson, D. Estep, P. Hansbo, C. Johnson

This is a two volume introduction to the computational solution of differential equations using a unified approach organized around the adaptive finite element method. It presents a synthesis of mathematical modeling, analysis, and computation. The goal is to provide the student with theoretical and practical tools useful for addressing the basic questions of computational mathematical modeling in science and engineering: How can we model physical phenomena using differential equations? What are the properties of solutions of differential equations? How do we compute solutions in practice? How do we estimate and control the accuracy of computed solutions? The first volume begins by developing the basic issues at an elementary level in the context of a set of model problems in ordinary differential equations. The authors then widen the scope to cover the basic classes of linear partial differential equations modeling elasticity, heat flow, wave propagation and convection-diffusion-absorption problems. The book concludes with a chapter on the abstract framework of the finite element method for differential equations. Volume 2, to be published in early 1997, extends the scope to nonlinear differential equations and systems of equations modeling a variety of phenomena such as reaction-diffusion, fluid flow, many-body dynamics and reaches the frontiers of research. It also addresses practical implementation issues in detail. These volumes are ideal for undergraduates studying numerical analysis or differential equations. This is a new edition of a 1988 text of 275 pages by C. Johnson.

Computational Differential Equations By K. Eriksson, D. Estep, P. Hansbo, C. Johnson Bibliography

- Sales Rank: #2477966 in Books
- Brand: Brand: Cambridge University Press
- Published on: 1996-09-28
- Released on: 1996-09-05
- Original language: English
- Number of items: 1
- Dimensions: 8.98" h x 1.14" w x 5.98" l, 1.70 pounds
- Binding: Paperback
- 556 pages

Editorial Review

Review
"...an excellent text...a readable, up-to-date, easily accessible, and mathematically sound introduction to finite element methods...a clear elucidation of the fundamentals of the finite element method at an elementary level." SIAM REVIEW

Users Review

From reader reviews:

Darrell Fowler:

Have you spare time for a day? What do you do when you have considerably more or little spare time? Yeah, you can choose the suitable activity regarding spend your time. Any person spent their own spare time to take a go walking, shopping, or went to the particular Mall. How about open or even read a book titled Computational Differential Equations? Maybe it is to be best activity for you. You recognize beside you can spend your time with the favorite's book, you can wiser than before. Do you agree with the opinion or you have other opinion?

Richard Plummer:

Hey guys, do you desires to finds a new book to learn? May be the book with the title Computational Differential Equations suitable to you? Often the book was written by famous writer in this era. The particular book untitled Computational Differential Equationsis the one of several books which everyone read now. This book was inspired a lot of people in the world. When you read this reserve you will enter the new way of measuring that you ever know previous to. The author explained their concept in the simple way, consequently all of people can easily to know the core of this guide. This book will give you a great deal of information about this world now. So that you can see the represented of the world with this book.

Kelli Smith:

A lot of people always spent their very own free time to vacation or even go to the outside with them family or their friend. Do you know? Many a lot of people spent these people free time just watching TV, or even playing video games all day long. If you want to try to find a new activity here is look different you can read any book. It is really fun for you personally. If you enjoy the book that you read you can spent all day every day to reading a guide. The book Computational Differential Equations it doesn't matter what good to read. There are a lot of folks that recommended this book. These were enjoying reading this book. In the event you did not have enough space bringing this book you can buy the actual e-book. You can m0ore easily to read this book from your smart phone. The price is not to cover but this book has high quality.

John Starr:

Do you have something that you enjoy such as book? The guide lovers usually prefer to select book like comic, brief story and the biggest the first is novel. Now, why not hoping Computational Differential Equations that give your fun preference will be satisfied by reading this book. Reading practice all over the world can be said as the opportunity for people to know world considerably better then how they react to the world. It can't be stated constantly that reading practice only for the geeky particular person but for all of you who wants to become success person. So , for every you who want to start reading through as your good habit, you could pick Computational Differential Equations become your personal starter.

Read Computational Differential Equations By K. Eriksson, D. Estep, P. Hansbo, C. Johnson for online ebook

Computational Differential Equations By K. Eriksson, D. Estep, P. Hansbo, C. Johnson 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 Differential Equations By K. Eriksson, D. Estep, P. Hansbo, C. Johnson books to read online.

Online Computational Differential Equations By K. Eriksson, D. Estep, P. Hansbo, C. Johnson ebook PDF download

Computational Differential Equations By K. Eriksson, D. Estep, P. Hansbo, C. Johnson Doc

Computational Differential Equations By K. Eriksson, D. Estep, P. Hansbo, C. Johnson Mobipocket

Computational Differential Equations By K. Eriksson, D. Estep, P. Hansbo, C. Johnson EPub

OU7TR4K2PV1: Computational Differential Equations By K. Eriksson, D. Estep, P. Hansbo, C. Johnson