



Introduction to the Finite-Difference Time-Domain (FDTD) Method for Electromagnetics (Synthesis Lectures on Computational Electromagnetics)

By Stephen D. Gedney

Download now

Read Online ➔

Introduction to the Finite-Difference Time-Domain (FDTD) Method for Electromagnetics (Synthesis Lectures on Computational Electromagnetics) By Stephen D. Gedney

Introduction to the Finite-Difference Time-Domain (FDTD) Method for Electromagnetics provides a comprehensive tutorial of the most widely used method for solving Maxwell's equations -- the Finite Difference Time-Domain Method. This book is an essential guide for students, researchers, and professional engineers who want to gain a fundamental knowledge of the FDTD method. It can accompany an undergraduate or entry-level graduate course or be used for self-study. The book provides all the background required to either research or apply the FDTD method for the solution of Maxwell's equations to practical problems in engineering and science. Introduction to the Finite-Difference Time-Domain (FDTD) Method for Electromagnetics guides the reader through the foundational theory of the FDTD method starting with the one-dimensional transmission-line problem and then progressing to the solution of Maxwell's equations in three dimensions. It also provides step by step guides to modeling physical sources, lumped-circuit components, absorbing boundary conditions, perfectly matched layer absorbers, and sub-cell structures. Post processing methods such as network parameter extraction and far-field transformations are also detailed. Efficient implementations of the FDTD method in a high level language are also provided. Table of Contents: Introduction / 1D FDTD Modeling of the Transmission Line Equations / Yee Algorithm for Maxwell's Equations / Source Excitations / Absorbing Boundary Conditions / The Perfectly Matched Layer (PML) Absorbing Medium / Subcell Modeling / Post Processing

 [Download Introduction to the Finite-Difference Time-Domain ...pdf](#)

 [Read Online Introduction to the Finite-Difference Time-Domai ...pdf](#)

Introduction to the Finite-Difference Time-Domain (FDTD) Method for Electromagne (Synthesis Lectures on Computational Electromagnetics)

By Stephen D. Gedney

Introduction to the Finite-Difference Time-Domain (FDTD) Method for Electromagne (Synthesis Lectures on Computational Electromagnetics) By Stephen D. Gedney

Introduction to the Finite-Difference Time-Domain (FDTD) Method for Electromagnetics provides a comprehensive tutorial of the most widely used method for solving Maxwell's equations -- the Finite Difference Time-Domain Method. This book is an essential guide for students, researchers, and professional engineers who want to gain a fundamental knowledge of the FDTD method. It can accompany an undergraduate or entry-level graduate course or be used for self-study. The book provides all the background required to either research or apply the FDTD method for the solution of Maxwell's equations to practical problems in engineering and science. Introduction to the Finite-Difference Time-Domain (FDTD) Method for Electromagnetics guides the reader through the foundational theory of the FDTD method starting with the one-dimensional transmission-line problem and then progressing to the solution of Maxwell's equations in three dimensions. It also provides step by step guides to modeling physical sources, lumped-circuit components, absorbing boundary conditions, perfectly matched layer absorbers, and sub-cell structures. Post processing methods such as network parameter extraction and far-field transformations are also detailed. Efficient implementations of the FDTD method in a high level language are also provided. Table of Contents: Introduction / 1D FDTD Modeling of the Transmission Line Equations / Yee Algorithm for Maxwell's Equations / Source Excitations / Absorbing Boundary Conditions / The Perfectly Matched Layer (PML) Absorbing Medium / Subcell Modeling / Post Processing

Introduction to the Finite-Difference Time-Domain (FDTD) Method for Electromagne (Synthesis Lectures on Computational Electromagnetics) By Stephen D. Gedney Bibliography

- Sales Rank: #2655663 in Books
- Published on: 2011-01-25
- Original language: English
- Number of items: 1
- Dimensions: 9.25" h x .57" w x 7.50" l, .97 pounds
- Binding: Paperback
- 250 pages

 [Download Introduction to the Finite-Difference Time-Domain ...pdf](#)

 [Read Online Introduction to the Finite-Difference Time-Domai ...pdf](#)

Download and Read Free Online Introduction to the Finite-Difference Time-Domain (FDTD) Method for Electromagne (Synthesis Lectures on Computational Electromagnetics) By Stephen D. Gedney

Editorial Review

Users Review

From reader reviews:

Emily Higginbotham:

Book is to be different for each grade. Book for children right up until adult are different content. To be sure that book is very important for people. The book Introduction to the Finite-Difference Time-Domain (FDTD) Method for Electromagne (Synthesis Lectures on Computational Electromagnetics) seemed to be making you to know about other expertise and of course you can take more information. It doesn't matter what advantages for you. The book Introduction to the Finite-Difference Time-Domain (FDTD) Method for Electromagne (Synthesis Lectures on Computational Electromagnetics) is not only giving you much more new information but also being your friend when you sense bored. You can spend your personal spend time to read your guide. Try to make relationship while using book Introduction to the Finite-Difference Time-Domain (FDTD) Method for Electromagne (Synthesis Lectures on Computational Electromagnetics). You never feel lose out for everything if you read some books.

Gregory Anderson:

The knowledge that you get from Introduction to the Finite-Difference Time-Domain (FDTD) Method for Electromagne (Synthesis Lectures on Computational Electromagnetics) may be the more deep you digging the information that hide in the words the more you get interested in reading it. It doesn't mean that this book is hard to know but Introduction to the Finite-Difference Time-Domain (FDTD) Method for Electromagne (Synthesis Lectures on Computational Electromagnetics) giving you joy feeling of reading. The copy writer conveys their point in a number of way that can be understood through anyone who read the idea because the author of this publication is well-known enough. That book also makes your current vocabulary increase well. So it is easy to understand then can go along, both in printed or e-book style are available. We propose you for having this specific Introduction to the Finite-Difference Time-Domain (FDTD) Method for Electromagne (Synthesis Lectures on Computational Electromagnetics) instantly.

Delmar Stingley:

People live in this new day time of lifestyle always try and and must have the extra time or they will get wide range of stress from both day to day life and work. So , when we ask do people have free time, we will say absolutely of course. People is human not just a robot. Then we request again, what kind of activity have you got when the spare time coming to you actually of course your answer will probably unlimited right. Then do you ever try this one, reading publications. It can be your alternative with spending your spare time, the actual book you have read is definitely Introduction to the Finite-Difference Time-Domain (FDTD) Method for Electromagne (Synthesis Lectures on Computational Electromagnetics).

Susan Bannister:

As a student exactly feel bored to help reading. If their teacher requested them to go to the library or make summary for some book, they are complained. Just small students that has reading's spirit or real their hobby. They just do what the instructor want, like asked to go to the library. They go to generally there but nothing reading really. Any students feel that examining is not important, boring and also can't see colorful photographs on there. Yeah, it is for being complicated. Book is very important to suit your needs. As we know that on this age, many ways to get whatever we wish. Likewise word says, many ways to reach Chinese's country. So , this Introduction to the Finite-Difference Time-Domain (FDTD) Method for Electromagne (Synthesis Lectures on Computational Electromagnetics) can make you truly feel more interested to read.

Download and Read Online Introduction to the Finite-Difference Time-Domain (FDTD) Method for Electromagne (Synthesis Lectures on Computational Electromagnetics) By Stephen D. Gedney #FL63MY7BU5K

Read Introduction to the Finite-Difference Time-Domain (FDTD) Method for Electromagne (Synthesis Lectures on Computational Electromagnetics) By Stephen D. Gedney for online ebook

Introduction to the Finite-Difference Time-Domain (FDTD) Method for Electromagne (Synthesis Lectures on Computational Electromagnetics) By Stephen D. Gedney 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 Introduction to the Finite-Difference Time-Domain (FDTD) Method for Electromagne (Synthesis Lectures on Computational Electromagnetics) By Stephen D. Gedney books to read online.

Online Introduction to the Finite-Difference Time-Domain (FDTD) Method for Electromagne (Synthesis Lectures on Computational Electromagnetics) By Stephen D. Gedney ebook PDF download

Introduction to the Finite-Difference Time-Domain (FDTD) Method for Electromagne (Synthesis Lectures on Computational Electromagnetics) By Stephen D. Gedney Doc

Introduction to the Finite-Difference Time-Domain (FDTD) Method for Electromagne (Synthesis Lectures on Computational Electromagnetics) By Stephen D. Gedney Mobipocket

Introduction to the Finite-Difference Time-Domain (FDTD) Method for Electromagne (Synthesis Lectures on Computational Electromagnetics) By Stephen D. Gedney EPub

FL63MY7BU5K: Introduction to the Finite-Difference Time-Domain (FDTD) Method for Electromagne (Synthesis Lectures on Computational Electromagnetics) By Stephen D. Gedney