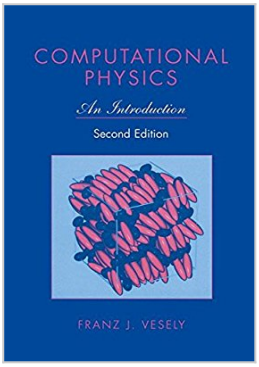

Computational Physics: An Introduction

By Franz J. Vesely

Computational Physics: An Introduction By Franz J. Vesely

In a rapidly evolving field such as computational physics, six years is an eternity. Even though many of the elementary techniques described here are of venerable age, their assembly into sophisticated combined methods and their intensive application to ever new problems is an ongoing and exciting process. After six years, a new the new vistas edition of this textbook must therefore take into account some of that have opened up recently. Apart from these additions and some didactic improvements, the general struc ture of the book holds good. The first three chapters are devoted to a thorough, if concise, treatment of the main ingredients from numerical mathematics: finite differences, linear algebra, and stochastics. This exercise will prove valuable when we proceed, in chapters 4 and 5, to combine these elementary tools into powerful instruments for the integration of differential equations. The final chapters are devoted to a number of applications in selected fields: statistical physics, quantum mechanics, and hydrodynamics. I will gradually augment this text by web-resident sample programs. These will be written in JAVA and will be accompanied by short explanations and references to this text. Thus it may prove worthwhile to pay an occasional visit to my web-site www.ap.univie.ac.at/users/Franz.Vesely/ to see if any new applets have sprung up.

Computational Physics: An Introduction

By Franz J. Vesely

Computational Physics: An Introduction By Franz J. Vesely

In a rapidly evolving field such as computational physics, six years is an eternity. Even though many of the elementary techniques described here are of venerable age, their assembly into sophisticated combined methods and their intensive application to ever new problems is an ongoing and exciting process. After six years, a new the new vistas edition of this textbook must therefore take into account some of that have opened up recently. Apart from these additions and some didactic improvements, the general struc ture of the book holds good. The first three chapters are devoted to a thorough, if concise, treatment of the main ingredients from numerical mathematics: finite differences, linear algebra, and stochastics. This exercise will prove valuable when we proceed, in chapters 4 and 5, to combine these elementary tools into powerful instruments for the integration of differential equations. The final chapters are devoted to a number of applications in selected fields: statistical physics, quantum mechanics, and hydrodynamics. I will gradually augment this text by web-resident sample programs. These will be written in JAVA and will be accompanied by short explanations and references to this text. Thus it may prove worthwhile to pay an occasional visit to my web-site www.ap.univie.ac.at/users/Franz.Vesely/ to see if any new applets have sprung up.

Computational Physics: An Introduction By Franz J. Vesely Bibliography

- Sales Rank: #4619635 in Books
- Published on: 2001-06-01
- Original language: English
- Number of items: 1
- Dimensions: 10.00" h x .69" w x 7.01" l, 1.59 pounds
- Binding: Hardcover
- 259 pages

Editorial Review

Review

about the first edition:
`... a concise introduction to the methods and algorithms used in computational physics...clear in its presentation... useful for those beginning more advanced work in the field...'

From the reviews of the second edition:

"The book is an excellent introduction to computational physics. … The book can be useful for graduate students of physical and mathematical faculties as well as for specialists in the field of numerical mathematics and mathematical modeling." (Piotr Matus, Zentralblatt MATH, Vol. 1049 (24), 2004)

Users Review

From reader reviews:

Paul Greenblatt:

Within other case, little people like to read book Computational Physics: An Introduction. You can choose the best book if you'd prefer reading a book. So long as we know about how is important any book Computational Physics: An Introduction. You can add knowledge and of course you can around the world by just a book. Absolutely right, since from book you can learn everything! From your country right up until foreign or abroad you will end up known. About simple issue until wonderful thing you may know that. In this era, we can easily open a book or searching by internet product. It is called e-book. You may use it when you feel uninterested to go to the library. Let's study.

Robert Defazio:

Here thing why this particular Computational Physics: An Introduction are different and trustworthy to be yours. First of all examining a book is good however it depends in the content of it which is the content is as scrumptious as food or not. Computational Physics: An Introduction giving you information deeper and in different ways, you can find any book out there but there is no reserve that similar with Computational Physics: An Introduction. It gives you thrill looking at journey, its open up your own personal eyes about the thing which happened in the world which is possibly can be happened around you. You can actually bring everywhere like in park your car, café, or even in your approach home by train. When you are having difficulties in bringing the published book maybe the form of Computational Physics: An Introduction in e-book can be your option.

Jessica Rodriguez:

Now a day folks who Living in the era exactly where everything reachable by interact with the internet and the resources inside it can be true or not call for people to be aware of each details they get. How a lot more

to be smart in having any information nowadays? Of course the answer then is reading a book. Reading through a book can help people out of this uncertainty Information specifically this Computational Physics: An Introduction book as this book offers you rich facts and knowledge. Of course the information in this book hundred per-cent guarantees there is no doubt in it you probably know this.

Joseph Alderete:

You will get this Computational Physics: An Introduction by go to the bookstore or Mall. Just viewing or reviewing it might to be your solve trouble if you get difficulties for the knowledge. Kinds of this e-book are various. Not only by written or printed but in addition can you enjoy this book by simply e-book. In the modern era similar to now, you just looking by your mobile phone and searching what their problem. Right now, choose your ways to get more information about your e-book. It is most important to arrange you to ultimately make your knowledge are still upgrade. Let's try to choose suitable ways for you.

Read Computational Physics: An Introduction By Franz J. Vesely for online ebook

Computational Physics: An Introduction By Franz J. Vesely 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 Physics: An Introduction By Franz J. Vesely books to read online.

Online Computational Physics: An Introduction By Franz J. Vesely ebook PDF download

Computational Physics: An Introduction By Franz J. Vesely Doc

Computational Physics: An Introduction By Franz J. Vesely Mobipocket

Computational Physics: An Introduction By Franz J. Vesely EPub