Numerical Methods With MATLAB: Implementations And Applications

The book was found
Synopsis

This thorough, modern exposition of classic numerical methods using MATLAB briefly develops the fundamental theory of each method. Rather than providing a detailed numerical analysis, the behavior of the methods is exposed by carefully designed numerical experiments. The methods are then exercised on several nontrivial example problems from engineering practice. This structured, concise, and efficient book contains a large number of examples of two basic types: One type of example demonstrates a principle or numerical method in the simplest possible terms. Another type of example demonstrates how a particular method can be used to solve a more complex practical problem. The material in each chapter is organized as a progression from the simple to the complex. Contains an extensive reference to using MATLAB. This includes interactive (command line) use of MATLAB, MATLAB programming, plotting, file input and output. For a practical and rigorous introduction to the fundamentals of numerical computation.

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Customer Reviews

This is a nice book for scientists and engineers. There are MATLAB programs already written that you can download from the webpage very easily, and modify for your specific use. I am no programmer, so having programs I can easily modify is a plus. This is meant to only be a review of linear algebra, so if you are trying to learn that subject, you will probably need to supplement this text with another book. This is not terribly in-depth on the MATLAB either. But it is a very useful handbook of plotting and interpolation methods, and how to choose the best methods for your
particular set of data.

I used this book along with course notes and homework that I found online. My goal was to learn everything in an undergrad-level Numerical Methods course without having to spend the time and money required to take a class. The reason I chose this book was that I am a computer scientist; this book uses a programming-oriented approach to the material than other books do. I was able to complete the homework in about six weeks. I rarely had to refer to the course notes or to other sources. So, overall the book worked well for me. For most of the topics, it was all I needed. But, it wasn’t a smooth ride the whole way. Some sections, notably Gaussian quadrature, were presented in confusing ways and took me several days to puzzle through. My one criticism of this book is that it uses a great deal of space to show Matlab code (which is available online) and so it does not have space for illustrative diagrams and graphs. So, you really need to run your own Matlab experiments using the provided code to understand the material.

This book is okay for a text book, however there aren’t many examples, and the examples that are there are very simple. There are solutions for some problems online, though most of them are very basic and don’t help very much.

Needed it for a class. It was really cheap compared to some other offers. The thing is it was missing a few pages, about a chapter and a half of content. I don’t remember reading anything on the description about missing pages but hey considering the price and the fact the most of the book is intact, meh.

As much as I dislike the author, this is likely one of the best matlab books on the market. It covers the material well, has good examples and is written by an engineer for engineers.

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