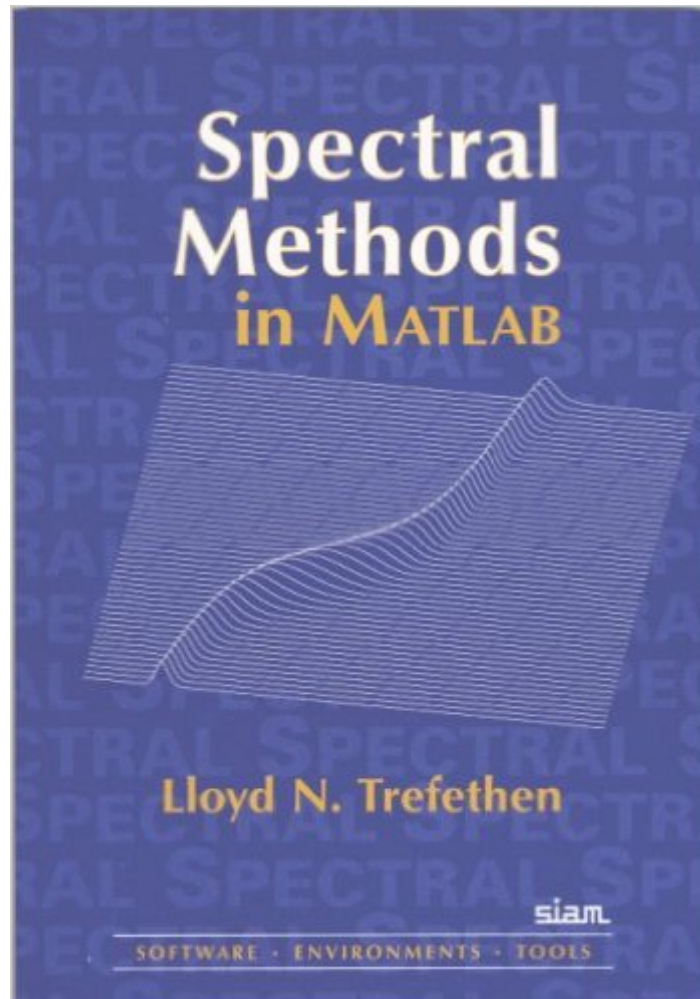


The book was found

Spectral Methods In MATLAB (Software, Environments, Tools)



Synopsis

This is the only book on spectral methods built around MATLAB programs. Along with finite differences and finite elements, spectral methods are one of the three main technologies for solving partial differential equations on computers. Since spectral methods involve significant linear algebra and graphics they are very suitable for the high level programming of MATLAB. This hands-on introduction is built around forty short and powerful MATLAB programs, which the reader can download from the World Wide Web. This book presents the key ideas along with many figures, examples, and short, elegant MATLAB programs for readers to adapt to their own needs. It covers ODE and PDE boundary value problems, eigenvalues and pseudospectra, linear and nonlinear waves, and numerical quadrature.

Book Information

Series: Software, Environments, Tools (Book 10)

Paperback: 184 pages

Publisher: SIAM: Society for Industrial and Applied Mathematics; 62026th edition (February 15, 2001)

Language: English

ISBN-10: 0898714656

ISBN-13: 978-0898714654

Product Dimensions: 6 x 0.4 x 9 inches

Shipping Weight: 11.2 ounces (View shipping rates and policies)

Average Customer Review: 4.8 out of 5 stars Â Â See all reviews Â (4 customer reviews)

Best Sellers Rank: #753,026 in Books (See Top 100 in Books) #354 in Â Books > Science & Math > Mathematics > Applied > Differential Equations #601 in Â Books > Science & Math >

Mathematics > Mathematical Analysis #920 in Â Books > Computers & Technology > Computer Science > AI & Machine Learning

Customer Reviews

The author achieves the hard task of explaining the subject in a very simple and, at the same time, intelligent way. The MATLAB m-files are short, educative and full of useful tricks. The book is well motivated, focused in the essentials and easy to read. I am very fond of most of Prof. Trefethen writings and this book is no disappointment. It contrasts starkly with the lack of mathematical insight in most of the engineering collocation literature, but at the same time has a hands-on approach to the problems. This book should be useful to anybody interested in solving PDE in regular

geometries.

Trefethen's "Spectral Methods in Matlab" is the best introduction I've seen to spectral methods and I've recommended it to many students over the years. Trefethen has the uncanny ability to boil complicated ideas down to their essences and present them in a clear, logical progression.

If you are a numerical analyst, this is a nice book to have on your shelf. It's an extremely readable introduction, but you will need some background in linear algebra and differential equations to follow everything. Trefethen writes in a readable style that is not even remotely terse. The book gives the basics of what spectral methods are, why they are so useful, and some practical application notes. It's not rigorous, but citations are given for the curious reader to examine the theoretical foundations of spectral methods.

Exceptionally well written. The codes all work. Lots of thought provoking ideas in this book. I'm delighted with this book.

[Download to continue reading...](#)

Spectral Methods in MATLAB (Software, Environments, Tools) MATLAB - Programming with MATLAB for Beginners - A Practical Introduction to Programming and Problem Solving (Matlab for Engineers, MATLAB for Scientists, Matlab Programming for Dummies) Spectral Methods for Time-Dependent Problems (Cambridge Monographs on Applied and Computational Mathematics) Enterprise Software Procurement: Tools and Techniques for Successful Software Procurement and Business Process Reengineering for Municipal Executives and Managers Software Defined Radio using MATLAB & Simulink and the RTL-SDR ISO 14644-3:2005, Cleanrooms and associated controlled environments - Part 3: Test methods Spectral Shakespeares: Media Adaptations in the Twenty-First Century (Reproducing Shakespeare) Haunted Savannah: America's Most Spectral City Spectral Theory of Infinite-Area Hyperbolic Surfaces (Progress in Mathematics) A Beginner's Guide to Mass Spectral Interpretation High Throughput Screening: Methods and Protocols (Methods in Molecular Biology) (Methods in Molecular Biology, 190) Code/Space: Software and Everyday Life (Software Studies) Swift: Programming, Master's Handbook: A TRUE Beginner's Guide! Problem Solving, Code, Data Science, Data Structures & Algorithms (Code like a PRO in ... mining, software, software engineering,) The Software Paradox: The Rise and Fall of the Commercial Software Market Small Memory Software: Patterns for systems with limited memory (Software Patterns Series) More Joel on Software: Further Thoughts on Diverse and Occasionally Related Matters That

Will Prove of Interest to Software Developers, Designers, ... or Ill Luck, Work with Them in Some Capacity Software Testing: Essential Skills for First Time Testers: Software Quality Assurance:From scratch to end How to Write a Software Patent Application: Your Guide to Quickly Writing Your US Software Patent Application The Muvipix.com Guide to Adobe Premiere Elements 9 (color version): The tools, and how to use them, to make movies on your personal computer using the best-selling video editing software program. Guide to Graphics Software Tools

[Dmca](#)