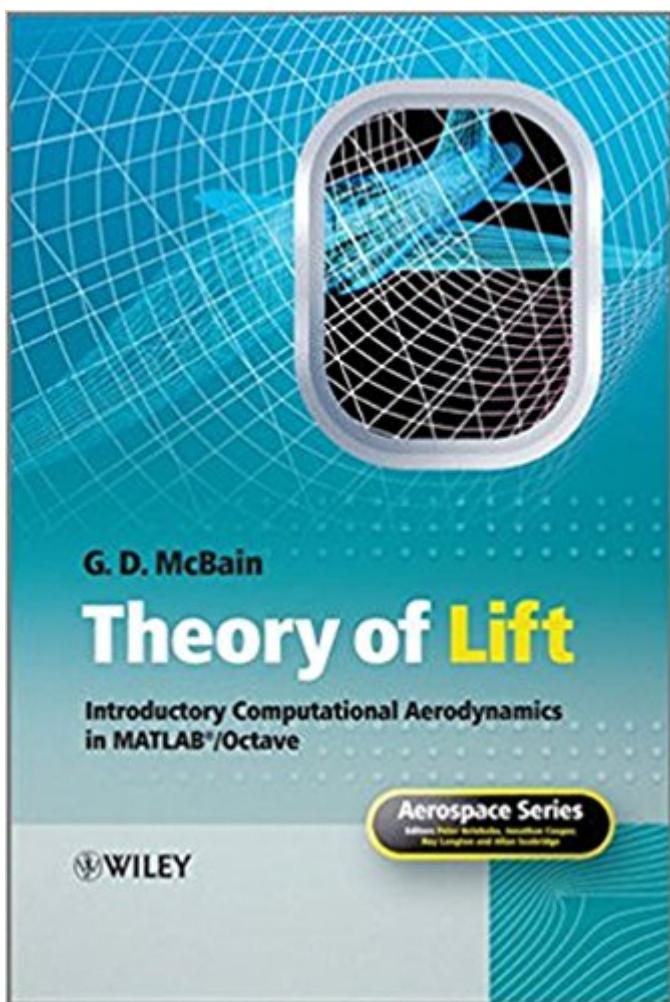


The book was found

Theory Of Lift: Introductory Computational Aerodynamics In MATLAB/Octave



Synopsis

Starting from a basic knowledge of mathematics and mechanics gained in standard foundation classes, *Theory of Lift: Introductory Computational Aerodynamics in MATLAB/Octave* takes the reader conceptually through from the fundamental mechanics of lift to the stage of actually being able to make practical calculations and predictions of the coefficient of lift for realistic wing profile and planform geometries. The classical framework and methods of aerodynamics are covered in detail and the reader is shown how they may be used to develop simple yet powerful MATLAB or Octave programs that accurately predict and visualise the dynamics of real wing shapes, using lumped vortex, panel, and vortex lattice methods. This book contains all the mathematical development and formulae required in standard incompressible aerodynamics as well as dozens of small but complete working programs which can be put to use immediately using either the popular MATLAB or free Octave computational modelling packages. Key features: Synthesizes the classical foundations of aerodynamics with hands-on computation, emphasizing interactivity and visualization. Includes complete source code for all programs, all listings having been tested for compatibility with both MATLAB and Octave. Companion website (www.wiley.com/go/mcbain) hosting codes and solutions. *Theory of Lift: Introductory Computational Aerodynamics in MATLAB/Octave* is an introductory text for graduate and senior undergraduate students on aeronautical and aerospace engineering courses and also forms a valuable reference for engineers and designers.

Book Information

Hardcover: 342 pages

Publisher: Wiley; 1 edition (July 23, 2012)

Language: English

ISBN-10: 111995228X

ISBN-13: 978-1119952282

Product Dimensions: 6.9 x 0.8 x 9.9 inches

Shipping Weight: 1.5 pounds (View shipping rates and policies)

Average Customer Review: 3.0 out of 5 stars 1 customer review

Best Sellers Rank: #940,525 in Books (See Top 100 in Books) #82 in Books > Engineering & Transportation > Engineering > Aerospace > Aerodynamics #519 in Books > Textbooks > Engineering > Aeronautical Engineering #929 in Books > Textbooks > Science & Mathematics > Mechanics

Customer Reviews

âœThis book is a very useful digest of key points from the literature, carefully structured and presented with helpful pointers as to how the successive aerodynamical models can be implemented in the â„ow so readily available interactive matrix computation systems.â•â (Aeronautical Journal, 1 August 2013)

Starting from a basic knowledge of mathematics and mechanics gained in standard foundation classes, *Theory of Lift: Introductory Computational Aerodynamics in MATLAB/Octave* takes the reader conceptually through from the fundamental mechanics of liftâ to the stage of actually being able to make practical calculations and predictions of the coefficient of lift for realistic wing profile and planform geometries. The classical framework and methods of aerodynamics are covered in detail and the reader is shown how they may be used to develop simple yet powerful MATLAB or Octave programs that accurately predict and visualise the dynamics of real wing shapes, using lumped vortex, panel, and vortex lattice methods. This book contains all the mathematical development and formulae required in standard incompressible aerodynamics as well as dozens of small but complete working programs which can be put to use immediately using either the popular MATLAB or free Octave computational modelling packages. Key features: Synthesizes the classical foundations of aerodynamics with hands-on computation, emphasizing interactivity and visualization. Includes complete source code for all programs, all listings having been tested for compatibility with both MATLAB and Octave. Companion website (www.wiley.com/go/mcbain) hosting codes and solutions. *Theory of Lift: Introductory Computational Aerodynamics in MATLAB/Octave* is an introductory text for graduate and senior undergraduate students on aeronautical and aerospace engineering courses and also forms a valuable reference for engineers and designers.

It is not a bad text but the author try to cover 2D ideal flow, 3D ideal flow and some aspect of non-ideal flow (viscous flow, boundary layer and compressibility) in less than 300 pages (excluding appendix, front matter, index, etc.). This is very short considering figures, exercises, references and Octave code listing. Often, the explanations are incomplete and are very short. Also, this text needs more figures (when the author says something like "...it is easy to see that...", it is not necessary the case for the student). Something, the author refers even to figures in other books! Sorry, but I don't have these figures in front of me when I am reading this book...I think that the first part (2D ideal aerodynamics) is acceptable but need more details. Indeed, the author cover complex

potential theory and related topics (ex: Joukowsky transform, thin airfoil theory, panel methods). These topics are relatively abstract and difficult to grasp. The second part (3D ideal aerodynamics) is disappointing. The author covers too many topics. I had the impression that the author had a "rush" to complete this part. The last part (non-ideal flow in aerodynamics) is more a primer to more various topics such as boundary layer theory and compressible effect. Finally, the author systematically refers to various classical text such as Low-Speed Aerodynamics (J. Katz and A. Plotkin) Foundations of Aerodynamics (A.M. Kuethe and C.Y. Chow) Theoretical Aerodynamics (L.-M. Milne-Thomson) An Introduction to Theoretical and Computational Aerodynamics (J. Moran) Principles of Ideal-Fluid Aerodynamics (K. Karamcheti) Fundamentals of Aerodynamics (J.D. Anderson) So I am wondering what new this book offer? I can't answer this question since I don't have read all these books but I am not impressed by "Theory of Lift".

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

Theory of Lift: Introductory Computational Aerodynamics in MATLAB/Octave Scientific Computing with MATLAB and Octave (Texts in Computational Science and Engineering) Essential MATLAB and Octave Signals and Systems using MATLAB, Second Edition (Signals and Systems Using MATLAB w/ Online Testing) Accelerating MATLAB Performance: 1001 tips to speed up MATLAB programs Image Processing with MATLAB: Applications in Medicine and Biology (MATLAB Examples) Foundations of Aerodynamics: Bases of Aerodynamics Design An Introduction to Scientific Computing: Twelve Computational Projects Solved with MATLAB (Texts in Applied Mathematics) Computational Statistics Handbook with MATLAB, Third Edition (Chapman & Hall/CRC Computer Science & Data Analysis) Applied Computational Aerodynamics: A Modern Engineering Approach (Cambridge Aerospace Series) An Introduction to Theoretical and Computational Aerodynamics (Dover Books on Aeronautical Engineering) Computational Fluid Mechanics and Heat Transfer, Third Edition (Series in Computational and Physical Processes in Mechanics and Thermal Sciences) Current Topics in Computational Molecular Biology (Computational Molecular Biology) Theoretical Neuroscience: Computational and Mathematical Modeling of Neural Systems (Computational Neuroscience Series) Simulating Enzyme Reactivity: Computational Methods in Enzyme Catalysis (Theoretical and Computational Chemistry Series) Computational Approaches to Protein Dynamics: From Quantum to Coarse-Grained Methods (Series in Computational Biophysics) The Power of Computational Thinking: Games, Magic and Puzzles to Help You Become a Computational Thinker Grandma and Me: A Lift-the-Flap Book (Karen Katz Lift-the-Flap Books) Roar, Roar, Baby!: A Karen Katz Lift-the-Flap Book (Karen Katz Lift-the-Flap Books) No Hitting!: A Lift-the-Flap Book (Karen Katz Lift-the-Flap Books)

Contact Us

DMCA

Privacy

FAQ & Help