Validated Numerics: A Short Introduction to Rigorous Computations (Hardback)

By Warwick Tucker

Princeton University Press, United States, 2011. Hardback. Book Condition: New. New.. 236 x 160 mm. Language: English . Brand New Book. This textbook provides a comprehensive introduction to the theory and practice of validated numerics, an emerging new field that combines the strengths of scientific computing and pure mathematics. In numerous fields ranging from pharmaceutics and engineering to weather prediction and robotics, fast and precise computations are essential. Based on the theory of set-valued analysis, a new suite of numerical methods is developed, producing efficient and reliable solvers for numerous problems in nonlinear analysis. Validated numerics yields rigorous computations that can find all possible solutions to a problem while taking into account all possible sources of error--fast, and with guaranteed accuracy. Validated Numerics offers a self-contained primer on the subject, guiding readers from the basics to more advanced concepts and techniques. This book is an essential resource for those entering this fast-developing field, and it is also the ideal textbook for graduate students and advanced undergraduates needing an accessible introduction to the subject. Validated Numerics features many examples, exercises, and computer labs using MATLAB/C++, as well as detailed appendixes and an extensive bibliography for further reading. * Provides a comprehensive,...

READ ONLINE
[2.82 MB]

Reviews

Certainly, this is actually the best function by any article writer. It is actually writter in straightforward words and never confusing. Your life period is going to be convert once you total looking over this ebook.
-- Mrs. Yolanda Reilly V

The publication is simple in go through preferable to fully grasp. I am quite late in start reading this one, but better then never. It is extremely difficult to leave it before concluding, once you begin to read the book.
-- Mrs. Josiane Collins