Título: Multipoint Methods For Solving Nonlinear Equations

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¦Provides a succinct way of implementing a wide range of useful and important numerical algorithms for solving research problems
¦Illustrates how numerical methods can be used to study problems which have applications in engineering and sciences, including signal processing, and control theory, and financial computation
¦Facilitates a deeper insight into the development of methods, numerical analysis of convergence rate, and very detailed analysis of computational efficiency
¦Provides a powerful means of learning by systematic experimentation with some of the many fascinating problems in science
¦Includes highly efficient algorithms convenient for the implementation into the most common computer algebra systems such as Mathematica, MatLab, and Maple

Description

This book is the first on the topic and explains the most cutting-edge methods needed for precise calculations and explores the development of powerful algorithms to solve research problems. Multipoint methods have an extensive range of practical applications significant in research areas such as signal processing, analysis of convergence rate, fluid mechanics, solid state physics, and many others. The book takes an introductory approach in making qualitative comparisons of different multipoint methods from various viewpoints to help the reader understand applications of more complex methods. Evaluations are made to determine and predict efficiency and accuracy of presented models useful to wide a range of research areas along with many numerical examples for a deep understanding of the usefulness of each method. This book will make it possible for the researchers to tackle difficult problems and deepen their understanding of problem solving using numerical methods.
Multipoint methods are of great practical importance, as they determine sequences of successive approximations for evaluative purposes. This is especially helpful in achieving the highest computational efficiency. The rapid development of digital computers and advanced computer

arithmetic have provided a need for new methods useful to solving practical problems in a multitude of disciplines such as applied mathematics, computer science, engineering, physics, financial mathematics, and biology.

Readership

Research Professionals, Scientists, Engineers, Mathematicans, Graduate Students