Modified Homotopy Analysis Method: Application To Linear And Nonlinear Ordinary Differential Equations Of Fractional Order

Ahmad El-Ajou

Modified Homotopy Analysis Method: Application To Linear And Nonlinear Ordinary Differential Equations Of Fractional Order

Ahmad El-Ajou

Modified Homotopy Analysis Method: Application To Linear And Nonlinear Ordinary Differential Equations Of Fractional Order Ahmad El-Ajou

We present a modification of an analytic technique, namely the homotopy analysis method (HAM) to obtain symbolic approximate solutions for linear and nonlinear differential equations of fractional order. This method was applied to three examples: a fractional oscillation equation, a fractional Riccati equation and a fractional Lane-Emden equation which were presented as fractional initial value problems (FIVPs). We extend this modification to provide approximate solutions of linear and nonlinear fractional boundary value problems (FBVPs). Four examples are tested using the extended approach. Also, four physical problems are solved using the modification of the HAM. The HAM is a strong and easy-to-use analytic tool for nonlinear problems and does not need small / large parameters in the equations.Comparison of the results with those of Adomian decomposition method (ADM),variational iteration method (VIM), and homotopy perturbation method (HPM), has led us to significant consequences. The obtained results show that the present method is very effective and convenient in solving nonlinear cases and the ADM, VIM and HPM are special cases of the HAM.

Download and Read Free Online Modified Homotopy Analysis Method: Application To Linear And Nonlinear Ordinary Differential Equations Of Fractional Order Ahmad El-Ajou

From reader reviews:

Amanda Moberly:

Do you have favorite book? If you have, what is your favorite's book? E-book is very important thing for us to be aware of everything in the world. Each reserve has different aim or even goal; it means that publication has different type. Some people experience enjoy to spend their time and energy to read a book. They may be reading whatever they consider because their hobby is reading a book. Why not the person who don't like reading a book? Sometime, man feel need book when they found difficult problem or exercise. Well, probably you will require this Modified Homotopy Analysis Method: Application To Linear And Nonlinear Ordinary Differential Equations Of Fractional Order.

Lori Roth:

In other case, little individuals like to read book Modified Homotopy Analysis Method: Application To Linear And Nonlinear Ordinary Differential Equations Of Fractional Order. You can choose the best book if you'd prefer reading a book. Provided that we know about how is important some sort of book Modified Homotopy Analysis Method: Application To Linear And Nonlinear Ordinary Differential Equations Of Fractional Order. You can add knowledge and of course you can around the world by a book. Absolutely right, since from book you can recognize everything! From your country until finally foreign or abroad you may be known. About simple thing until wonderful thing you could know that. In this era, we can open a book or perhaps searching by internet unit. It is called e-book. You should use it when you feel uninterested to go to the library. Let's examine.

Melinda Anderson:

Nowadays reading books become more and more than want or need but also become a life style. This reading behavior give you lot of advantages. The huge benefits you got of course the knowledge the rest of the information inside the book in which improve your knowledge and information. The data you get based on what kind of book you read, if you want attract knowledge just go with education books but if you want truly feel happy read one using theme for entertaining like comic or novel. The actual Modified Homotopy Analysis Method: Application To Linear And Nonlinear Ordinary Differential Equations Of Fractional Order is kind of book which is giving the reader erratic experience.

Luis Poole:

In this age globalization it is important to someone to find information. The information will make anyone to understand the condition of the world. The fitness of the world makes the information easier to share. You can find a lot of references to get information example: internet, newspaper, book, and soon. You will observe that now, a lot of publisher this print many kinds of book. The actual book that recommended to you is Modified Homotopy Analysis Method: Application To Linear And Nonlinear Ordinary Differential Equations Of Fractional Order this reserve consist a lot of the information of the condition of this world now.

This particular book was represented so why is the world has grown up. The language styles that writer require to explain it is easy to understand. The particular writer made some exploration when he makes this book. Honestly, that is why this book suited all of you.

Download and Read Online Modified Homotopy Analysis Method: Application To Linear And Nonlinear Ordinary Differential Equations Of Fractional Order Ahmad El-Ajou #34NVKIUXE9S

Read Modified Homotopy Analysis Method: Application To Linear And Nonlinear Ordinary Differential Equations Of Fractional Order by Ahmad El-Ajou for online ebook

Modified Homotopy Analysis Method: Application To Linear And Nonlinear Ordinary Differential Equations Of Fractional Order by Ahmad El-Ajou Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Modified Homotopy Analysis Method: Application To Linear And Nonlinear Ordinary Differential Equations Of Fractional Order by Ahmad El-Ajou books to read online.

Online Modified Homotopy Analysis Method: Application To Linear And Nonlinear Ordinary Differential Equations Of Fractional Order by Ahmad El-Ajou ebook PDF download

Modified Homotopy Analysis Method: Application To Linear And Nonlinear Ordinary Differential Equations Of Fractional Order by Ahmad El-Ajou Doc

Modified Homotopy Analysis Method: Application To Linear And Nonlinear Ordinary Differential Equations Of Fractional Order by Ahmad El-Ajou Mobipocket

Modified Homotopy Analysis Method: Application To Linear And Nonlinear Ordinary Differential Equations Of Fractional Order by Ahmad El-Ajou EPub