



Modeling and Simulation of Reactive Flows

By A.L. De Bortoli, Greice Andreis, Felipe Pereira

Download now

Read Online ➔

Modeling and Simulation of Reactive Flows By A.L. De Bortoli, Greice Andreis, Felipe Pereira

Modelling and Simulation of Reactive Flows presents information on modeling and how to numerically solve reactive flows. The book offers a distinctive approach that combines diffusion flames and geochemical flow problems, providing users with a comprehensive resource that bridges the gap for scientists, engineers, and the industry.

Specifically, the book looks at the basic concepts related to reaction rates, chemical kinetics, and the development of reduced kinetic mechanisms. It considers the most common methods used in practical situations, along with equations for reactive flows, and various techniques?including flamelet, ILDM, and Redim?for jet flames and plumes, with solutions for both.

In addition, the book includes techniques to accelerate the convergence of numerical simulation, and a discussion on the analysis of uncertainties with numerical results, making this a useful reference for anyone who is interested in both combustion in free flow and in porous media.

- Helps readers learn how to apply applications of numerical methods to simulate geochemical kinetics
- Presents methods on how to transform the transport equations in several coordinate systems
- Includes discussions of the basic concepts related to reaction rates, chemical kinetics, and the development of reduced kinetic mechanisms, including the most common methods used in practical situations
- Offers a distinctive approach that combines diffusion flames and geochemical flow problems

↓ [Download Modeling and Simulation of Reactive Flows ...pdf](#)

📖 [Read Online Modeling and Simulation of Reactive Flows ...pdf](#)

Modeling and Simulation of Reactive Flows

By A.L. De Bortoli, Greice Andreis, Felipe Pereira

Modeling and Simulation of Reactive Flows By A.L. De Bortoli, Greice Andreis, Felipe Pereira

Modelling and Simulation of Reactive Flows presents information on modeling and how to numerically solve reactive flows. The book offers a distinctive approach that combines diffusion flames and geochemical flow problems, providing users with a comprehensive resource that bridges the gap for scientists, engineers, and the industry.

Specifically, the book looks at the basic concepts related to reaction rates, chemical kinetics, and the development of reduced kinetic mechanisms. It considers the most common methods used in practical situations, along with equations for reactive flows, and various techniques including flamelet, ILDM, and Redim for jet flames and plumes, with solutions for both.

In addition, the book includes techniques to accelerate the convergence of numerical simulation, and a discussion on the analysis of uncertainties with numerical results, making this a useful reference for anyone who is interested in both combustion in free flow and in porous media.

- Helps readers learn how to apply applications of numerical methods to simulate geochemical kinetics
- Presents methods on how to transform the transport equations in several coordinate systems
- Includes discussions of the basic concepts related to reaction rates, chemical kinetics, and the development of reduced kinetic mechanisms, including the most common methods used in practical situations
- Offers a distinctive approach that combines diffusion flames and geochemical flow problems

Modeling and Simulation of Reactive Flows By A.L. De Bortoli, Greice Andreis, Felipe Pereira
Bibliography

- Sales Rank: #3363098 in Books
- Published on: 2015-07-17
- Released on: 2015-07-03
- Original language: English
- Number of items: 1
- Dimensions: 9.00" h x .48" w x 6.00" l, .75 pounds
- Binding: Paperback
- 212 pages



[Download Modeling and Simulation of Reactive Flows ...pdf](#)



[Read Online Modeling and Simulation of Reactive Flows ...pdf](#)

Editorial Review

About the Author

Prof. De Bortoli acquired good numerical experience at the DLR, Deutsches Zentrum für Luft- und Raumfahrt, Braunschweig, Germany, during part of his doctorate, and gained experience in combustion during his postdoctoral work performed at ITV, Institut für Technische Verbrennung, RWTH, Aachen, Germany. Professor De Bortoli has experience in solving geochemical fluxes acquired during his development of the Petrobras (Oil Company of Brazil). In addition, he oversaw about 30 Dissertations, 10 Ph.Ds and 3 post-doctoral works at Graduate Programs in both Applied Mathematics and Chemical Engineering.

Prof. G.S.L. Andreis has experience developing models and numerical simulation obtained during her Ph.D. and post-doctoral work in Chemical Engineering under the supervision of Prof. De Bortoli.

F.N. Pereira is finishing his Ph.D. in the Development of analytical-numerical solutions for bioethanol turbulent jet diffusion flames, under the supervision of Prof. Álvaro L. de Bortoli.

Users Review

From reader reviews:

Marjorie Batchelder:

Book is to be different for every grade. Book for children until eventually adult are different content. To be sure that book is very important for people. The book Modeling and Simulation of Reactive Flows has been making you to know about other knowledge and of course you can take more information. It is extremely advantages for you. The guide Modeling and Simulation of Reactive Flows is not only giving you considerably more new information but also for being your friend when you truly feel bored. You can spend your own personal spend time to read your e-book. Try to make relationship with the book Modeling and Simulation of Reactive Flows. You never really feel lose out for everything in case you read some books.

Joann Hamilton:

Hey guys, do you would like to finds a new book you just read? May be the book with the subject Modeling and Simulation of Reactive Flows suitable to you? Typically the book was written by well-known writer in this era. Often the book untitled Modeling and Simulation of Reactive Flows is the main one of several books in which everyone read now. This book was inspired many people in the world. When you read this reserve you will enter the new way of measuring that you ever know previous to. The author explained their idea in the simple way, therefore all of people can easily to be aware of the core of this publication. This book will give you a great deal of information about this world now. So that you can see the represented of the world in this particular book.

Donna Antonucci:

A lot of publication has printed but it differs. You can get it by world wide web on social media. You can choose the most effective book for you, science, witty, novel, or whatever simply by searching from it. It is identified as of book Modeling and Simulation of Reactive Flows. You can include your knowledge by it. Without leaving the printed book, it could possibly add your knowledge and make anyone happier to read. It is most significant that, you must aware about book. It can bring you from one spot to other place.

Whitney Martinez:

A lot of people said that they feel bored when they reading a guide. They are directly felt the item when they get a half regions of the book. You can choose often the book Modeling and Simulation of Reactive Flows to make your own personal reading is interesting. Your skill of reading expertise is developing when you such as reading. Try to choose basic book to make you enjoy to read it and mingle the feeling about book and reading especially. It is to be initial opinion for you to like to open a book and examine it. Beside that the e-book Modeling and Simulation of Reactive Flows can to be your friend when you're experience alone and confuse in doing what must you're doing of these time.

Download and Read Online Modeling and Simulation of Reactive Flows By A.L. De Bortoli, Greice Andreis, Felipe Pereira #58WXBN1I6KD

Read Modeling and Simulation of Reactive Flows By A.L. De Bortoli, Greice Andreis, Felipe Pereira for online ebook

Modeling and Simulation of Reactive Flows By A.L. De Bortoli, Greice Andreis, Felipe Pereira 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 Modeling and Simulation of Reactive Flows By A.L. De Bortoli, Greice Andreis, Felipe Pereira books to read online.

Online Modeling and Simulation of Reactive Flows By A.L. De Bortoli, Greice Andreis, Felipe Pereira ebook PDF download

Modeling and Simulation of Reactive Flows By A.L. De Bortoli, Greice Andreis, Felipe Pereira Doc

Modeling and Simulation of Reactive Flows By A.L. De Bortoli, Greice Andreis, Felipe Pereira Mobipocket

Modeling and Simulation of Reactive Flows By A.L. De Bortoli, Greice Andreis, Felipe Pereira EPub

58WXBNI6KD: Modeling and Simulation of Reactive Flows By A.L. De Bortoli, Greice Andreis, Felipe Pereira