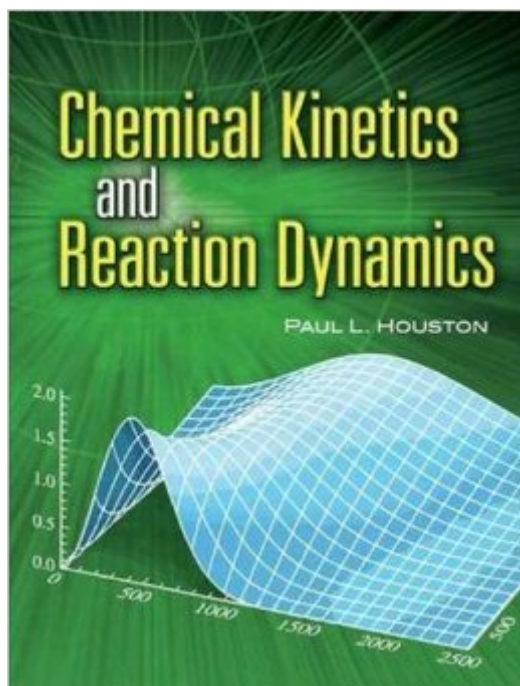


The book was found

# Chemical Kinetics And Reaction Dynamics (Dover Books On Chemistry)



## Synopsis

This text teaches the principles underlying modern chemical kinetics in a clear, direct fashion, using several examples to enhance basic understanding. It features solutions to selected problems, with separate sections and appendices that cover more technical applications. Each chapter is self-contained and features an introduction that identifies its basic goals, their significance, and a general plan for their achievement. This text's important aims are to demonstrate that the basic kinetic principles are essential to the solution of modern chemical problems, and to show how the underlying question "How do chemical reactions occur?" leads to exciting, vibrant fields of modern research. The first aim is achieved by using relevant examples in presenting the basic material, and the second is attained by inclusion of chapters on surface processes, photochemistry, and reaction dynamics.

## Book Information

Series: Dover Books on Chemistry

Paperback: 348 pages

Publisher: Dover Publications (November 17, 2006)

Language: English

ISBN-10: 0486453340

ISBN-13: 978-0486453347

Product Dimensions: 8.3 x 0.7 x 11 inches

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

Average Customer Review: 4.2 out of 5 stars [See all reviews](#) (15 customer reviews)

Best Sellers Rank: #640,546 in Books (See Top 100 in Books) [#162 in Books > Science & Math > Chemistry > Physical & Theoretical > Physical Chemistry](#) [#1632 in Books > Science & Math > Chemistry > General & Reference](#) [#1699 in Books > Textbooks > Science & Mathematics > Chemistry](#)

## Customer Reviews

Chemical kinetics and reaction dynamics are not easy subjects, demanding quite a lot of physics in some complicated settings. Thus, it is all the more impressive that Paul Houston has managed to write this extraordinarily clear and concise text that is accessible to an advanced undergraduate. Do not get me wrong; the prerequisites for this book are extensive. A good grasp of basic newtonian mechanics, quantum mechanics, spectroscopy, and statistical thermodynamics are musts. But nothing is needed beyond what can be expected from a good, stiff one-year course in physical

chemistry. From the first chapter on the kinetic theory of gases, Houston's focus on the physics - on keeping derivations short and clear, on connecting formulae with sound physical intuition - is striking. It does not lag as the book goes on. Houston continues with a clean exposition of empirical chemical kinetics and how to integrate and/or simplify the resulting differential equations. The grungy business of theoretical kinetics - how to kludge your way to a theoretical gas-phase reaction rate constant - is well treated after that. In the third chapter, Houston delivers an elegant and unified flux-driven treatment of transport phenomena. He gets the basic equations correct up to a numerical factor with a minimum of effort. This is beautiful; I wish chemical engineers would read this before beginning their own transport travails! There are then several chapters on the chemistry of more complicated systems, like solution-phase, solid surface-phase, and photochemical reactions. While I haven't read these, I am sure they are wonderful. The high point, in my opinion, is the final chapter on reaction dynamics. Its ongoing tacit motivation is the question, "How does a hydrogen fluoride laser work?"

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

Chemical Kinetics and Reaction Dynamics (Dover Books on Chemistry) Mechanism and Kinetics of Addition Polymerizations (Comprehensive Chemical Kinetics) (Vol.31) Introduction to Chemical Reaction Engineering and Kinetics Chemical Kinetics and Dynamics (2nd Edition) Ace Organic Chemistry I: The EASY Guide to Ace Organic Chemistry I: (Organic Chemistry Study Guide, Organic Chemistry Review, Concepts, Reaction Mechanisms and Summaries) Kinetics of Chemical Processes: Butterworth-Heinemann Series in Chemical Engineering Unimolecular Reaction Dynamics: Theory and Experiments (International Series of Monographs on Chemistry) Chemical Dynamics at Low Temperatures (Advances in Chemical Physics) Chemical Kinetics (3rd Edition) Principles of Chemical Kinetics The Structure and Reaction Processes of Coal (The Plenum Chemical Engineering Series) Dynamic Spin Chemistry: Magnetic Controls and Spin Dynamics of Chemical Reactions The Principles of Chemical Equilibrium: With Applications in Chemistry and Chemical Engineering Jokes For Kids - Joke Books : Funny Books : Kids Books : Books for kids age 9 12 : Best Jokes 2016 (kids books, jokes for kids, books for kids 9-12, ... funny jokes, funny jokes for kids) (Volume 1) Inorganic and Organometallic Reaction Mechanisms (Brooks/Cole Series in Inorganic Chemistry) Advanced Organic Chemistry: Part B: Reaction and Synthesis Ace General Chemistry I and II (The EASY Guide to Ace General Chemistry I and II): General Chemistry Study Guide, General Chemistry Review Organometallic Reaction Mechanisms of the Nontransition Elements (Organometallic chemistry) Reaction Mechanisms At a Glance: A Stepwise Approach to Problem-Solving in Organic Chemistry Reaction Mechanisms in Environmental Organic Chemistry

