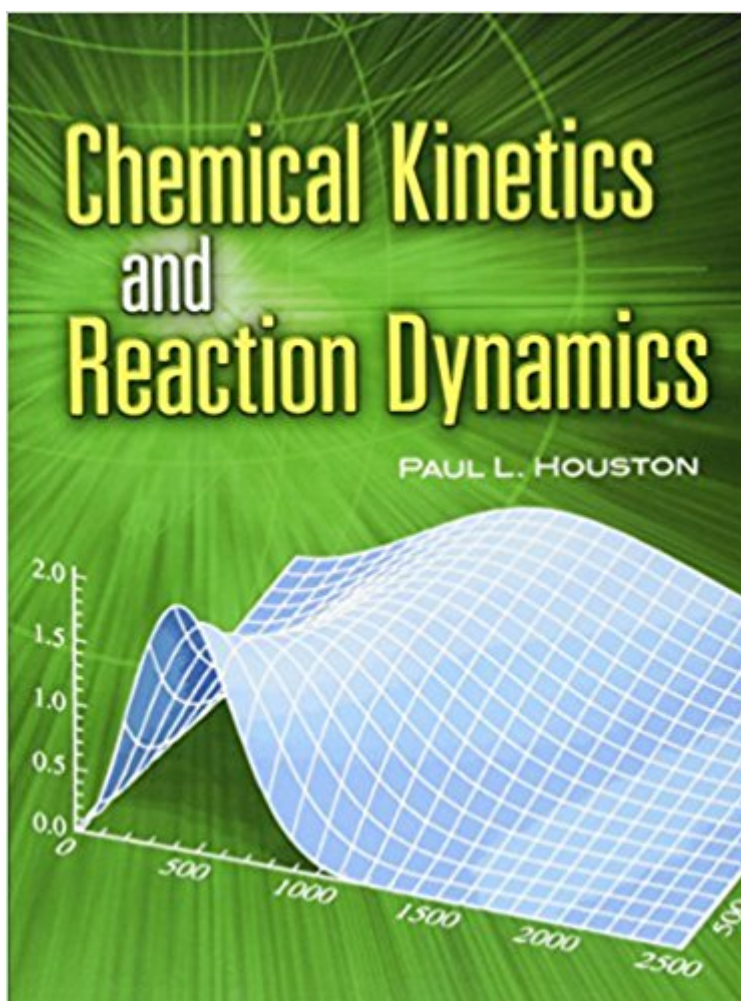


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Chemical Kinetics And Reaction Dynamics (Dover Books On Chemistry)



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: 3.9 out of 5 stars 16 customer reviews

Best Sellers Rank: #123,792 in Books (See Top 100 in Books) #41 in Books > Science & Math > Chemistry > Physical & Theoretical > Physical Chemistry #554 in Books > Science & Math > Chemistry > General & Reference #611 in Books > Textbooks > Science & Mathematics > Chemistry

Customer Reviews

Chairman, Department of Chemistry and Chemical Biology --This text refers to an out of print or unavailable edition of this title.

This book provides a very thorough introduction to chemical kinetics at an almost rigorous level. The mathematical derivations are given direct physical interpretations (something that is missing in many physical chemistry books) that are on par with physics books. Its introduction states that a full year

of calculus is all that is required. I totally disagree. At the very least, the math requirements are multivariable calculus (double and triple integration appear through out the text; vector calculus ; partial derivatives), methods of approximation (power series & Taylor expansions), & working knowledge of ordinary & partial differential (Fick's second law of diffusion) equations are helpful in understanding how the solutions are determined. Moreover, the homework exercises present problems where Laplace transforms (small section is provided for Laplace transforms) are needed to solve the D.E.'s and P.D.E.'s. What is most surprising is that from the first page the author directly dives into kinetics with clear & precise definitions without getting sidetracked or giving any unwanted wordiness or jargon. In no way is this book what I call difficult but very accessible. The author never makes any of the subjects more difficult than they have to be in understanding the material. Mr. Houston's book stays focused to kinetics and its outcome is a book with few pages but dense & rich with material, a welcomed addition for anyone in the fields of theoretical, physical chemistry, or chemical physics. In addition, a plethora of homework problems are presented. However, it has been difficult to find the solutions manual for the problems in the book.

Book was in used condition; not too heavily, but certainly used. I would not call this condition Very Good. Disappointing. The book itself is quite good for an introduction to chemical kinetics.

The book is good, but it is not organized/formatted well, so it was difficult to follow sometimes. Note that this book is paperback and black and white pages.

I bought this book as a supplement to the primary text for a chemical kinetics course. I have found it to be incredibly helpful. The explanations are clear and concise.

Great job in covering most of the fundamentals of diverse areas of chemical kinetics in such small pages! Would have given five stars only if it discussed molecular reaction dynamics in a bit more detail.

Good source.

Very theory oriented. A good chemical engineering textbook (i.e., from Prentice Hall) is probably a better choice for more applications oriented content.

It's very new and has a fair price.

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