



## Modeling Chemical Systems using Cellular Automata (Mixed media product)

By Lemont B. Kier, Paul G. Seybold, Chao-Kun Cheng

Springer-Verlag New York Inc., United States, 2006. Mixed media product. Condition: New. 2005. Language: English. Brand New Book. Modeling Chemical Systems using Cellular Automata provides a practical introduction to an exciting modeling paradigm for complex systems. The book first discusses the nature of scientific inquiry using models and simulations, and then describes the nature of cellular automata models. It then gives detailed descriptions, with examples and exercises, of how cellular automata models can be used in the study of a wide variety chemical, physical, and biochemical phenomena. Topics covered include models of water itself, solution phenomena, solution interactions with stationary systems, first- and second-order kinetic phenomena, enzyme kinetics, vapor-liquid equilibrium, and atomic and molecular excited-state kinetics. The student experiences these systems through hands-on examples and guided studies. This book is the first of its kind: a textbook and a laboratory manual about cellular automata modeling of common systems in chemistry. The book is designed to be used as a text in undergraduate courses dealing with complex systems and/or as a computational supplement to laboratory courses taught at the undergraduate level. The book includes: - Compact descriptions of a large variety of physical and chemical phenomena - Illustrative examples of...



## Reviews

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