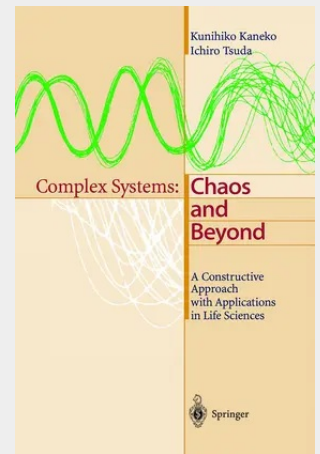


Complex Systems: Chaos and Beyond

A Constructive Approach with Applications in Life Sciences

Chaos in science has always been a fascinating realm since it challenges the usual scientific approach of reductionism. While carefully distinguishing between complexity, holism, randomness, incompleteness, nondeterminism and stochastic behaviour the authors show that, although many aspects of chaos have been phenomenologically understood, most of its defining principles are still difficult to grasp and formulate. Demonstrating that chaos escapes all traditional methods of description, the authors set out to find new methods to deal with this phenomenon and illustrate their constructive approach with many examples from physics, biology and information technology. While maintaining a high level of rigour, an overly complicated mathematical apparatus is avoided in order to make this book accessible, beyond the specialist level, to a wider interdisciplinary readership.

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