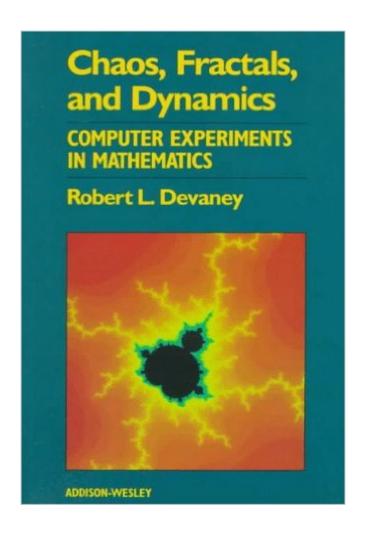
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CHAOS, FRACTALS, AND DYNAMICS: COMPUTER EXPERIMENTS IN MODERN MATHEMATICS (DALE SEYMOUR MATH)





Synopsis

This book attempts to understand processes in motion such as the movement of stars, the ups and downs of the stock market, the changes in weather, the changes chemicals undergo, and the motion of a pendulum. Students are introduced to chaos, fractals and dynamics, three exciting contemporary mathematics topics, through a combination of precalculus mathematics and hands-on computer experimentation that produced graphic images of Julia sets, the Mandelbrot set, and fractals.

Book Information

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Mathematics > Pure Mathematics > Fractals #189 in Books > Science & Math > Physics >

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Customer Reviews

This book is exactly what it's title claims -- an exploration of the basic ideas of chaos and fractals with simple computer programs. The author provides the basic mathematical background and then follows with algorithms for simple programs to explore the ideas. Well, actually he provides BASIC programs, but BASIC does not differ that much from any useful pseudo code schema. Anyhow, it is easy enough for anyone with a smattering of programming experience to implement the programs in whatever language they choose. If you are interested in chaos, fractals and dynamic systems, this book is a good place to start.

Even though this book uses basic as a written language to do fractals. It talk a lot in details on the math side of it. If anyone who wants an understanding on fractals should get this book. I just finished reading this in a day and understand the process that goes with it.

This book provides an excellent framework for understanding chaotic systems, whether for the novice or the experienced fractal scientist. The diagrams in particular helped elucidate the concepts presented. Science made simple without being dummed down - well done!

This book, despite its age, is an excellent introduction and instruction to explore iterated functions, Julia sets and the Mandelbrot set. This is essentially done on the backbone of quadratic maps but the beauty and essential features are explored. The pseudo code could be adapted to whatever favourite language one chooses. The colour plates are beautiful by themselves. It motivates me, in my spare time, to do my own experiments (the author's main purpose for the book).

Gentle introduction to dynamic systems and fractals without sparing mathematical rigor. The line by line programming is a little outdated, however if you can follow BASIC programming you can adopt it for your needs. Haven't finished it yet. Very interesting. Truly a gem in this area amenable to self study.

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