

<<非线性物理入门NONLINEAR PHY>>

图书基本信息

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内容概要

Almost all real systems are nonlinear. For a nonlinear system the superposition principle breaks down. The system's response is not proportional to the stimulus it receives; the whole is more than the sum of its parts. This book contains the basics of nonlinear science, with applications in physics. It is divided into three parts. Part I contains an overview of fractals, chaos, solitons, pattern formation, cellular automata and complex systems. Part II includes reprints of 15 review papers and essays written by pioneers and 11 research articles. Part III is a collection of 17 student projects, including computer algorithms for simulation models. The book can be used for self-study, as a textbook for a one-semester course, or as a supplement to other courses in linear and nonlinear systems. The reader is required to have some knowledge of introductory college physics, but computer literacy and mathematical knowledge beyond calculus are not necessary.

作者简介： Lui Lam obtained his BSc (with First Class Honors) from the University of Hong Kong and his MSc from the University of British Columbia. He went on to do his thesis at Bell Laboratories and received his PhD from Columbia University. He is currently a professor at San Jose State University. Professor Lam is the originator of active walks, bowlic liquid crystals, the book series Partially Ordered Systems, and the international Liquid Crystal Society. He is also noted for his contributions to Compton profiles, the dissipation function formulation of hydrodynamics and irreversible thermodynamics of complex materials, and solitons in liquid crystals.

书籍目录

Prologue: The Ground Has ShiftedPART OVERVIEW 1 Introduction 1.1 A Quiet Revolution 1.2 Nonlinearity 2 Fractals 3 Chaos 4 Solitons 5 Pattern Formation 6 Cellular Automata 7 Complex Systems 8 Remarks and Further ReadingPART REPRINTS 9 Fractals 9.1 Fractal Growth Processes L. M. Sander [Nature 322, 789-793 (1986)] 9.2 Fractal Geometry in Crumpled Paper Balls M. A. F. Gornes [Am. J. Phys. 55,649 650 (1987)] 9.3 Fractal of Large Scale Structures in the Universe L. Z. Fang [Mod. Phys. Lett. A1,601 605 (1986)] 9.4 The Devil's Staircase P. Bak [Phys. Today 39(12), 38-45 (1986)] 9.5 Multifractal Phenomena in Physics and Chemistry H. E. Stanley and P. Meakin [Nature 335,405-409 (1988)] 9.6 Simple Multifractals with Sierpinski Gasket Supports L. Lam, R. D. Freimuth and J. L. Drake [unpublished (1992)] 10 Chaos 10.1 Chaos J. P. Crutchfield, J. D. Farmer, N. H. Packard and R. S. Shaw [Sci. Am. 254(12), 46 58 (1986)] 10.2 Chaos in a Dripping Faucet H. N. Nunez Yopez, A. L. Salas Brito, C. A. Vargas and L. A. Vicente [Eur. J. Phys. 10, 99-105 (1989)] 10.3 Chaos, Strange Attractors, and Fractal Basin Boundaries in Nonlinear Dynamics C. Grebogi, E. Ott and J. A. Yorke [Science 238, 632-638 (1987)] 10.4 Nonlinear Forecasting as a Way of Distinguishing Chaos from Measurement Error in Time Series G. Sugihara and R. M. May [Nature 344, 734-741 (1990)] 10.5 Controlling Chaos E. Ott and M. Spano [Phys. Today 48(5), 34 40 (1995)] 10.6 Quantum Chaos M. C. Gutzwiller [Sci. Am. 266(1), 78-84 (1992)] 10.7 How Random is a Coin Toss? J. Ford [Phys. Today 36(4), 40 47 (1983)] 11 Solitons 11.1 Solitons R. g. Bullough [Phys. Bulletin, 78-82 (Feb. 1978)] 11.2 Soliton Propagation in Liquid Crystals Lin Lei (L. Lain), Shu Changqing, Shen Juelian, P. M. Lam and Huang Yun [Phys. Rev. Lett. 49, 1335-1338 (1982); ibid. 52, 2190(E) (1984)] 11.3 Possible Relevance of Soliton Solutions to Superconductivity T. D. Lee [Nature 330, 460 461 (1987)] 12 Pattern Formation 12.1 Dendrites, Viscous Fingers, and the Theory of Pattern Formation J. S. Langer [Science 243, 1150-1156 (1989)] 12.2 Tip Splitting Without Interracial Tension and Dendritic Growth Patterns Arising from Molecular Anisotropy J. Nittmann and H. E. Stanley [Nature 321, 663 668 (1986)]PART PROJECTSAppendicesAcknowledgmentsIndex

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