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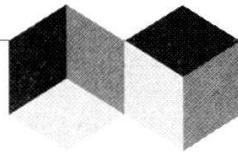
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DYNAMICAL SYSTEMS • ERGODIC THEORY • CHAOS

PM 153 • Progress in Mathematics

J. Buescu, Institut Superior Técnico, Lisboa, Portugal

## Exotic Attractors From Liapunov Stability to Riddled Basins

1997. 142 pages. Hardcover

DM 78.-/öS 570.-/sFr. 68.-

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This book on attractors in dynamical systems will appeal primarily to researchers and advanced postgraduate students working in the area of dynamical systems. However, since it is self-contained, it may be used profitably by anyone wishing a general but mathematically rigorous introduction to the concepts and ideas of attractors in dynamics.

The study is divided roughly into two parts, with a generic introduction to the concept of attractor in dynamics preceding a description of new results on two research problems. The first part is gentle but rigorous; several different notions of attractor are defined and compared, and the finer points are thoroughly illustrated by examples and counterexamples. The second part of the book deals with two different problems in discrete dynamics to which the author has contributed. One is the characterization of the dynamics on stable w-limit sets with infinitely many components; this is shown to be an adding machine, which has interesting implications for dynamics at a fundamental level. The second problem is the study of the transverse stability of attractors on an invariant submanifold. The author uses methods from differentiable dynamics and ergodic theory to construct the spectrum of normal Liapunov exponents, and shows that the relevant phenomena, e.g. riddled basins, are characterized by this spectrum.

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