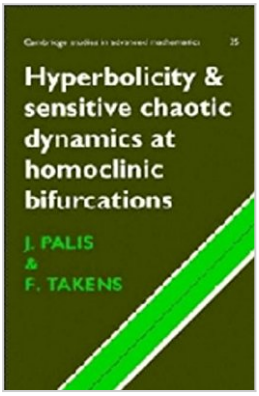

Hyperbolicity and Sensitive Chaotic Dynamics at Homoclinic Bifurcations: Fractal Dimensions and Infinitely Many Attractors in Dynamics (Cambridge Studies in Advanced Mathematics)

By Jacob Palis, Floris Takens

Hyperbolicity and Sensitive Chaotic Dynamics at Homoclinic Bifurcations: Fractal Dimensions and Infinitely Many Attractors in Dynamics (Cambridge Studies in Advanced Mathematics) By Jacob Palis, Floris Takens

This is a self-contained introduction to the classical theory of homoclinic bifurcation theory, as well as its generalizations and more recent extensions to higher dimensions. It is also intended to stimulate new developments, relating the theory of fractal dimensions to bifurcations, and concerning homoclinic bifurcations as generators of chaotic dynamics. The book begins with a review chapter giving background material on hyperbolic dynamical systems. The next three chapters give a detailed treatment of a number of examples, Smale's description of the dynamical consequences of transverse homoclinic orbits, and a discussion of the subordinate bifurcations that accompany homoclinic bifurcations, including Hénon-like families. The core of the work is the investigation of the interplay between homoclinic tangencies and non-trivial basic sets. The fractal dimensions of these basic sets turn out to play an important role in determining which class of dynamics is prevalent near a bifurcation. The authors provide a new, more geometric proof of Newhouse's theorem on the co-existence of infinitely many periodic attractors, one of the deepest theorems in chaotic dynamics.

Hyperbolicity and Sensitive Chaotic Dynamics at Homoclinic Bifurcations: Fractal Dimensions and Infinitely Many Attractors in Dynamics (Cambridge Studies in Advanced Mathematics)

By Jacob Palis, Floris Takens

Hyperbolicity and Sensitive Chaotic Dynamics at Homoclinic Bifurcations: Fractal Dimensions and Infinitely Many Attractors in Dynamics (Cambridge Studies in Advanced Mathematics) By Jacob Palis, Floris Takens

This is a self-contained introduction to the classical theory of homoclinic bifurcation theory, as well as its generalizations and more recent extensions to higher dimensions. It is also intended to stimulate new developments, relating the theory of fractal dimensions to bifurcations, and concerning homoclinic bifurcations as generators of chaotic dynamics. The book begins with a review chapter giving background material on hyperbolic dynamical systems. The next three chapters give a detailed treatment of a number of examples, Smale's description of the dynamical consequences of transverse homoclinic orbits, and a discussion of the subordinate bifurcations that accompany homoclinic bifurcations, including Hénon-like families. The core of the work is the investigation of the interplay between homoclinic tangencies and non-trivial basic sets. The fractal dimensions of these basic sets turn out to play an important role in determining which class of dynamics is prevalent near a bifurcation. The authors provide a new, more geometric proof of Newhouse's theorem on the co-existence of infinitely many periodic attractors, one of the deepest theorems in chaotic dynamics.

Hyperbolicity and Sensitive Chaotic Dynamics at Homoclinic Bifurcations: Fractal Dimensions and Infinitely Many Attractors in Dynamics (Cambridge Studies in Advanced Mathematics) By Jacob Palis, Floris Takens Bibliography

- Sales Rank: #720783 in Books
- Published on: 1993-07-30
- Original language: English
- Number of items: 1
- Dimensions: 8.98" h x .71" w x 5.98" l, .99 pounds
- Binding: Hardcover
- 244 pages

Editorial Review

Review
"...an interesting monograph on this collection of ideas. It begins with material often covered in graduate texts but quickly moves to the exposition of ideas only available in the original sources. It would be quite suitable for an advanced graduate level course in dynamics and bifurcation theory." John Franks, Bulletin of the American Mathematical Society

Users Review

From reader reviews:

Robert Burdette:

Now a day individuals who Living in the era everywhere everything reachable by interact with the internet and the resources inside can be true or not demand people to be aware of each information they get. How individuals to be smart in getting any information nowadays? Of course the answer is reading a book. Looking at a book can help men and women out of this uncertainty Information particularly this Hyperbolicity and Sensitive Chaotic Dynamics at Homoclinic Bifurcations: Fractal Dimensions and Infinitely Many Attractors in Dynamics (Cambridge Studies in Advanced Mathematics) book because book offers you rich info and knowledge. Of course the information in this book hundred per cent guarantees there is no doubt in it you know.

Nancy Jackson:

Information is provisions for those to get better life, information currently can get by anyone at everywhere. The information can be a understanding or any news even a problem. What people must be consider when those information which is from the former life are challenging to be find than now is taking seriously which one works to believe or which one typically the resource are convinced. If you find the unstable resource then you have it as your main information you will see huge disadvantage for you. All of those possibilities will not happen with you if you take Hyperbolicity and Sensitive Chaotic Dynamics at Homoclinic Bifurcations: Fractal Dimensions and Infinitely Many Attractors in Dynamics (Cambridge Studies in Advanced Mathematics) as the daily resource information.

Claudia Weidner:

Reading a book can be one of a lot of pastime that everyone in the world really likes. Do you like reading book and so. There are a lot of reasons why people fantastic. First reading a e-book will give you a lot of new details. When you read a publication you will get new information due to the fact book is one of numerous ways to share the information as well as their idea. Second, reading through a book will make a person more imaginative. When you examining a book especially fiction book the author will bring you to definitely imagine the story how the characters do it anything. Third, it is possible to share your knowledge

to others. When you read this Hyperbolicity and Sensitive Chaotic Dynamics at Homoclinic Bifurcations: Fractal Dimensions and Infinitely Many Attractors in Dynamics (Cambridge Studies in Advanced Mathematics), you can tells your family, friends in addition to soon about yours reserve. Your knowledge can inspire the others, make them reading a guide.

Ann Bland:

A lot of people always spent their free time to vacation or maybe go to the outside with them friends and family or their friend. Are you aware? Many a lot of people spent these people free time just watching TV, or playing video games all day long. If you would like try to find a new activity that's look different you can read the book. It is really fun for you. If you enjoy the book that you just read you can spent the whole day to reading a publication. The book Hyperbolicity and Sensitive Chaotic Dynamics at Homoclinic Bifurcations: Fractal Dimensions and Infinitely Many Attractors in Dynamics (Cambridge Studies in Advanced Mathematics) it is quite good to read. There are a lot of individuals who recommended this book. These were enjoying reading this book. In case you did not have enough space to create this book you can buy the particular e-book. You can m0ore simply to read this book through your smart phone. The price is not too expensive but this book provides high quality.

Read Hyperbolicity and Sensitive Chaotic Dynamics at Homoclinic Bifurcations: Fractal Dimensions and Infinitely Many Attractors in Dynamics (Cambridge Studies in Advanced Mathematics) By Jacob Palis, Floris Takens for online ebook

Hyperbolicity and Sensitive Chaotic Dynamics at Homoclinic Bifurcations: Fractal Dimensions and Infinitely Many Attractors in Dynamics (Cambridge Studies in Advanced Mathematics) By Jacob Palis, Floris Takens Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Hyperbolicity and Sensitive Chaotic Dynamics at Homoclinic Bifurcations: Fractal Dimensions and Infinitely Many Attractors in Dynamics (Cambridge Studies in Advanced Mathematics) By Jacob Palis, Floris Takens books to read online.

Online Hyperbolicity and Sensitive Chaotic Dynamics at Homoclinic Bifurcations: Fractal Dimensions and Infinitely Many Attractors in Dynamics (Cambridge Studies in Advanced Mathematics) By Jacob Palis, Floris Takens ebook PDF download

Hyperbolicity and Sensitive Chaotic Dynamics at Homoclinic Bifurcations: Fractal Dimensions and Infinitely Many Attractors in Dynamics (Cambridge Studies in Advanced Mathematics) By Jacob Palis, Floris Takens Doc

Hyperbolicity and Sensitive Chaotic Dynamics at Homoclinic Bifurcations: Fractal Dimensions and Infinitely Many Attractors in Dynamics (Cambridge Studies in Advanced Mathematics) By Jacob Palis, Floris Takens Mobipocket

Hyperbolicity and Sensitive Chaotic Dynamics at Homoclinic Bifurcations: Fractal Dimensions and Infinitely Many Attractors in Dynamics (Cambridge Studies in Advanced Mathematics) By Jacob Palis, Floris Takens EPub

C9VNLWB5T6F: Hyperbolicity and Sensitive Chaotic Dynamics at Homoclinic Bifurcations: Fractal Dimensions and Infinitely Many Attractors in Dynamics (Cambridge Studies in Advanced Mathematics) By Jacob Palis, Floris Takens