



Welcome to the Quick Reference guide for the Journal Archives service.

Journal Archives brings together over 600 journals from 8 major publishers with material spanning the 19th and 20th centuries, encompassing a wealth of subject areas. The journals can be searched or browsed and all articles can be downloaded as PDFs. The following publisher archives are included:

- Brill Journal Archive Online - Part 1 (Vol 1 to 1999) and Part 2 (2000 -2009)
- Cambridge Journals Digital Archive (1827 – 1996)
- Institution of Civil Engineers Virtual Library Archive (1836-2001)
- Institute of Physics (IOP) Journal Archive (1874-1998)
- Periodicals Archive Online - Jisc Collections Selection (1891 – 2000)
- Oxford Journals Archive and Archive Upgrade (Oxford University Press) (1849 - 1995)
- Royal Society of Chemistry (RSC) Journals Archive (1841-2004)
- Taylor & Francis Geography, Planning, Urban and Environment Online Archive (1885 to 1996)

In addition, the complete run of the Feminist magazine “Spare Rib” is hosted as open access, available to all.

The Quick Reference guide will help users to get going on the Journal Archives service as quickly as possible. It isn't intended to cover every feature or possible usage scenario. If you have any queries or require assistance please contact the Journal Archives helpdesk at journalarchives@jisc.ac.uk.



Search View, with results shown below

The screenshot shows the Journal Archives search interface. At the top, there's a search bar with the text "chaos theory" and a "Search" button. To the right of the search bar, it says "Matched 13882 hits". Below the search bar, there's a "Toggle thumbnail images on and off here." callout pointing to the "Thumbnail images: On Off" toggle. To the left of the search results, there's a "Filter results by" section with dropdowns for "Journal Title", "Author", and "Year of Publication". In the center, there's a "Sort by: Relevance" dropdown and a "Results per page: 30" dropdown, with a callout "Click here to reorder your search by Relevance, Author, Year of Publication or Title." and another callout "Change the number of results per page here." pointing to the "Results per page" dropdown. Below these, there's a pagination bar with "First", "Previous", "1", "2", "3", "4", "5", "Next", and "Last" buttons. On the right, there's a "More Search Options" button and a "View mode:" section with icons for list and tile views, with a callout "Toggle between list and tile views of your search results." pointing to the view mode icons. The search results are displayed in a list view. The first result is "Review of Chaos. From Theory to Applications" by Main, Ian G. It includes bibliographic data like "Journal: Geological Magazine", "Volume: 133", "Issue: 1", "Pages: 114 - 115", "Publication date: January 1996", and "DOI: 10.1017/S0016756800007342". There's a "Download PDF" button next to it. A callout "Bibliographic data for one of the search results." points to this information. The second result is "The anharmonic route to chaos: kneading theory" by Glendinning, P. It includes bibliographic data like "Journal: Nonlinearity", "Volume: 6", "Issue: 3", "Publication date: May 1993", and "DOI: 10.1088/0951-7715/6/3/001". There's a "Download PDF" button next to it. A callout "You can download an article directly from your results list by clicking the 'Download PDF' button." points to this button. The third result is "Bifurcations and chaos in the ϕ_4 theory on a lattice" by Bak, P., Jensen, M. It includes bibliographic data like "Journal: Journal of Physics A: Mathematical and General", "Volume: 15", "Issue: 6", "Pages: 1893 - 1907", "Publication date: 1 June 1982", and "DOI: 10.1088/0305-4470/15/6/030". There's a "Download PDF" button next to it.

Search View, expanded to show Advanced Options

Explore » Journals

Journal Arch

Choose which fields to search on using this drop-down arrow.

chaos theory

Search

Matched 13882 hits

Date: All Single year or range e.g. 1900 or 1905-1906 or 1950, 1953-1956

Volume: All Single volume or range e.g. 1 or 3-4 or 2, 6-9

Issue: All Issue number or information e.g. 5 or May

Start page: All Start page number e.g. 12 or 2

DOI: All DOI number e.g. 10.1039

Specify Date, Volume, Issue, and Start Pages or ranges thereof to search on. Search for a specific DOI.

Additional rows can be used to search on All Fields, Article Title, Journal Title, ISSN/EISSN and Author. Set whether the search term MUST, SHOULD or MUST NOT be included.

MUST include All Remove

Click here to create additional rows.

+ Add row

Reset

Click here to clear all the fields before running a new search.

Click here to browse your search results by Article, Journal or Year of Publication.

Click here to hide the Advanced Search options.

Hide Search Options

Thumbnail images: On Off

Filter results by

Journal Title

Author

Year of Publication

Articles Journals Year of Publication

Sort by: Relevance Results per page: 30

First < Previous 1 2 3 4 5 Next > Last

1

Review of Chaos. From Theory to Applications

Author: Main, Ian G.

Press. TSONIS A. A. 1992. *Chaos*. From *Theory* to Applications, xii + 274 pp. New York, London, time series. The second part of the book is dedicated to the *theory* of *chaos*. Chapter 5 introduces, modern idea of '*chaos*' even in popular bookshops, with a plethora of volumes on the subject, apparently unpredictable phenomena. But does *chaos* have more than just a pretty face - does it really, a variety of scientific ills. The mathematical idea of deterministic *chaos* has its roots in the

Journal: Geological Magazine

Volume: 133 | Issue: 1 | Pages: 114 - 115

Publication date: January 1996

DOI: 10.1017/S0016756800007342

Download PDF

Using the Viewer to look at a document

Journal Archives << Results Click here to return to your list of search results.

Click the button to expand the Search panel.

Zoom in and out or reset the view back to default from this toolbar.

Click the numbered buttons to jump to a specific page, or use the arrow buttons to move forwards or backwards through the article a page at a time.

Click the down-arrow to download the whole article as a PDF, or the citation data in the .RIS format.

Click the button to expand the Details panel.

The first page of one of our results in the Viewer.

Nonlinearity 6 (1993) 349–367. Printed in the UK

The anharmonic route to chaos: kneading theory

Paul Glendinning
Department of Applied Mathematics and Theoretical Physics, University of Cambridge,
Silver Street, Cambridge CB3 9EW, UK

Received 6 January 1992, in final form 2 October 1992
Accepted by R S MacKay

Abstract. The kneading theory for maps which model the anharmonic route to chaos is developed. We show that the transition to chaos in a range of problems is via a sequence of period-doubling and homoclinic bifurcations, and that this route to chaos is robust in the sense that if a family of differential equations undergoes this transition to chaos, then so do sufficiently close families. The sequence of bifurcations generates orbits of period (p_n) , $n \geq 1$, related by $p_{n+1} = 2p_n + (-1)^n k$ which exist for maps on the boundary of chaos.

AMS classification scheme numbers 58F13, 58F14

1. Introduction

In [9] a new route to chaos (in the sense of having a topological horseshoe or, equivalently, positive topological entropy) was described, where maps on the boundary of chaos have orbits of period (p_n) , $n > 0$, where

$$p_{n+1} = 2p_n + (-1)^n k \quad (1.1)$$

(for any non-zero integer k), together with an orbit of period $|k|$ and, possibly, an orbit of period $2|k|$. The aim of this paper is to give topological proofs for this new route to chaos, showing that this transition is stable to small perturbations of the defining equations.

To date several robust routes to chaos have been described in maps of the interval and diffeomorphisms of the disc (which can be thought of as return maps for families of differential equations). The most well-known is probably period-doubling [6, 7], where maps on the boundary of chaos have orbits of period (p_n) , $n \geq 1$, with

$$p_{n+1} = 2p_n \quad (1.2)$$

for some choice of $p_1 \geq 1$ ($p_1 = 1$ for continuous maps of the interval). Most other transitions are abrupt, and maps on the boundary of chaos have only a finite number of periods as, for example, in circle intermittency [14], a mechanism related to circle intermittency on the Lorenz surface [8, 21–23] and the homoclinic explosions of Lorenz maps [1, 19]. Thus the new sequence of periods (1.1) can be seen as a second

0951-7715/93/050349 + 19\$07.50 © 1993 IOP Publishing Ltd and LMS Publishing Ltd 349

The Viewer, with the Search and Details panels open

Journal Archives

Click these tabs to switch between a Thumbnails view, a list of Pages where your search terms were matched, and a list of related Articles.

Click the right-arrow icon to access a permanent URL to this article.

Click any thumbnail to jump directly to that page in the Viewer.

You can scroll through the article using this bar.

Click these tabs to switch between the bibliographic details and the full text for the article here.

chaos: kneading theory

P. Glendinning
Department of Applied Mathematics and Theoretical Physics, University of Cambridge,
Silver Street, Cambridge CB3 9EW, UK

Received 6 January 1992, in final form 2 October 1992
Accepted by R. S. MacKay

Abstract. The kneading theory for maps which model the anharmonic route to chaos is developed. We show that the transition to chaos in a range of problems is via a sequence of period-doubling and homoclinic bifurcations, and that this route to chaos is robust in the sense that if a family of differential equations undergoes this transition to chaos, then so do sufficiently close families. The sequence of bifurcations generates orbits of period (p_n) , $n \geq 1$, related by $p_{n+1} = 2p_n + (-1)^n k$ which exist for maps on the boundary of chaos.

AMS classification scheme numbers 58F13, 58F14

1. Introduction

In [9] a new route to chaos (in the sense of having a topological horseshoe or, equivalently, positive topological entropy) was described, where maps on the boundary of chaos have orbits of period (p_n) , $n \geq 0$, where

$$p_{n+1} = 2p_n + (-1)^n k \quad (1.1)$$

(for any non-zero integer k), together with an orbit of period $|k|$ and, possibly, an orbit of period $2|k|$. The aim of this paper is to give topological proofs for this new route to chaos, showing that this transition is stable to small perturbations of the defining equations.

To date several robust routes to chaos have been described in maps of the interval and diffeomorphisms of the disc (which can be thought of as return maps for families of differential equations). The most well-known is probably period-doubling [6, 7], where maps on the boundary of chaos have orbits of period (p_n) , $n \geq 1$, with

$$p_{n+1} = 2p_n \quad (1.2)$$

for some choice of $p_1 \geq 1$ ($p_1 = 1$ for continuous maps of the interval). Most other transitions are abrupt, and maps on the boundary of chaos have only a finite number of periods as, for example, in circle intermittency [14], a mechanism related to circle intermittency on the Lorenz surface [8, 21–23] and the homoclinic explosions of Lorenz maps [1, 19]. Thus the new sequence of periods (1.1) can be seen as a second

Journal: Nonlinearity
Article: The anharmonic route to chaos
Author: Glendinning, P.
Volume: 6 | Issue: 3 | Pages: 349 - 367
Publication date: May 1993
DOI: 10.1088/0951-7715/6/3/001

0951-7715/93/050349 + 19\$07.50 © 1993 IOP Publishing Ltd and LMS Publishing Ltd 349