



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 and 50 additional titles (18 – 2005)
- 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)

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 with several features highlighted:

- Thumbnail images:** A toggle switch between "On" and "Off" with an arrow pointing to it.
- Search term:** The search term "chaos theory" entered in the search bar.
- Matched 14352 hits:** The total number of search results.
- No. of search results:** A label indicating the number of results.
- Sort by:** A dropdown menu set to "Relevance" with an arrow pointing to it.
- Results per page:** A dropdown menu set to "30" with an arrow pointing to it.
- View mode:** A button to switch between list and grid view.
- Filters:** Expandable filters for "Journal Title", "Author", and "Year of Publication".
- Publication Preview:** Preview of the first publication titled "Review of Chaos. From Theory to Applications" with a "Download PDF" button.
- Bibliographic Data:** Detailed bibliographic information for the article "Implications of Chaos Theory to Human Behavior" with a "Download PDF" button.

Annotations in orange text provide additional context:

- Toggle thumbnails on and off
- Change how results are ordered and number displayed
- Switch between list and grid view
- Click a title or thumbnail to open a publication
- Download PDF from results page
- Bibliographic data for an article
- Filters for your results can be expanded and selected

Search View, expanded to show Advanced Options

The screenshot shows the 'Journal Archives' search interface with the following features highlighted:

- Advanced Search Options (top left):** A red box highlights the 'Date', 'Volume', 'Issue', 'Start page', and 'DOI' sections. Each section has a radio button set to 'All' and a dropdown menu for more specific search criteria. Examples like 'Single year or range' (e.g., 1900 or 1905-1906 or 1950, 1953-1956) and 'DOI number' (e.g., 10.1039/b715576j) are shown.
- Search Logic (middle left):** A dropdown menu shows 'MUST' selected, with an 'include' dropdown below it containing 'All'. A red box surrounds the '+ Add row' button, which is used to add new search criteria rows.
- Reset Button (middle left):** A red box highlights the 'Reset' button at the bottom of the search logic area.
- Refine Your Search (middle right):** A red box highlights the text 'Refine your search with additional options'.
- Browse Options (bottom left):** Includes 'Thumbnail images' (On/Off), 'Filter results by' dropdowns for 'Journal Title', 'Author', and 'Year of Publication', and a 'Sort by' dropdown.
- Browse Results (bottom center):** Shows search results for 'Chaos Theory and Educational Systems' by Peter Macchia, Jr. It includes tabs for 'Articles', 'Journals', and 'Year of Publication' (the latter is highlighted with a red box). It also shows sorting ('Relevance'), results per page ('30'), and pagination ('1 2 3 4 5 Next Last').
- Download PDF (bottom center):** A green 'Download PDF' button is shown next to the article preview.
- Hide Advanced Options (bottom right):** A red box highlights the 'Hide Search Options' button.

Using the Viewer to look at a document

The screenshot shows a document viewer interface with the following highlighted features:

- Search panel:** Located in the top-left corner, it includes a search bar and buttons for "Search", "P", "T", and "A".
- Open search panel:** A callout points to the search bar area.
- Control zoom:** Includes icons for zoom in, zoom out, and fit.
- Navigate to specific pages:** A vertical sidebar on the left shows page numbers 1 through 10, with arrows for navigating between pages.
- Nonlinearity 6 (1993) 349–367. Printed in the UK:** Metadata at the top of the main content area.
- The anharmonic route to chaos: kneading theory:** The title of the document.
- Paul Glendinning:** Author's name.
- Department of Applied Mathematics and Theoretical Physics. University of Cambridge, Silver Street, Cambridge CB3 9EW, UK:** Author's affiliation.
- Received 6 January 1992, in final form 2 October 1992**
- Accepted by R S MacKay**
- Abstract:** A detailed abstract describing the kneading theory for maps.
- AMS classification scheme numbers 58F13, 58F14**
- 1. Introduction:** The first section of the document.
- 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**
- $p_{n+1} = 2p_n + (-1)^n k$ (1.1)**
- Navigation scrollbar:** A vertical scrollbar on the right side of the main content area.
- Details panel:** A callout points to the "Details" button in the navigation sidebar.
- Handle to resize side panel:** A vertical handle on the right edge of the side panel.

The Viewer, with the Search and Details panels open

The screenshot shows the Journal Archives viewer interface with several panels open:

- Search Panel:** On the left, there is a search bar containing the word "chaos". A red box highlights this search term, and a red arrow points from the text "Search within text and results are highlighted in the viewer" to the search bar.
- Results Panel:** Below the search bar, it says "56 matches in 19 pages". The list of matches is shown, with some text in blue indicating links or references.
- Text Panel:** The main content area displays an academic article titled "The anharmonic route to chaos: kneading theory". It includes author information ("Paul Glendinning"), abstract, received date, accepted date, and AMS classification numbers.
- Details Panel:** On the right, there are two buttons: "Details" (highlighted with a red box) and "Text". A red arrow points from the text "Switch between full text and bibliographic details" to the "Details" button.
- Header and Footer:** The top header includes "Journal Archives" and "Results". The footer contains links for "Home", "About", "Browse", "Support", and a download icon. The page number "349" is also visible at the bottom right.

Search within text and results are highlighted in the viewer

The anharmonic route to chaos: kneading theory

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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....

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1 chaos have orbits of period (p_n), $n \geq 1$, with $p_{n+1} = 2p_n + (-1)^k$ (1.2) for some choice of p , $2 \leq p \leq 1$...

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Nonlinearity 6 (1993)
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_j , $j \geq 1$, related by $p_{j+1} = 2p_j + (-1)^k$ 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_j , $j \geq 0$, where $p_{m+1} = 2p_m + (-1)^k$ (1.1) (for any non-zero integer k), together with an orbit of period Ik and, possibly, an orbit of period $2Ik$. 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 $p_{n+1} = 2p_n + (-1)^k$ (1.2) for some choice of p , $2 \leq p \leq 1$ 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 1141, a mechanism related to circle intermittency on, the Lorenz surface [s, 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 0 1993 IOP Publishing Ltd and LMS Publishing Ltd 349 . 350 P Glendinning to 10 = 1 Figure 1. The twisted Lorenz surfaces and their corresponding return maps: (a) the semi-orientable case and maps in class B (b) the non-orientable case and maps in class C. route to chaos involving infinite sequences of bifurcations leading to maps on the boundary of chaos with an infinite number of periodic orbits. Since it does not involve the simple multiplying of previous periods it can be referred to as an anharmonic route to chaos. It is worth noting that there is an uncountable number of other routes to chaos involving infinite sequences of bifurcations [s, 10.21-23]. However, none of these appear to be stable to small perturbations of the defining differential equations, and so these are of less physical interest than the route to chaos described here. The maps defined in section two are derived from semi-flows on the semi-orientable and the non-orientable versions of the Lorenz surface [1, 10], so we can expect to see the anharmonic route to chaos in families of differential equations modelled by these semi-flows. The Lorenz surfaces are sketched in figure 1, together with typical examples of the return maps obtained on the interval I. Note that at the stationary point, 0, on the boundary of the Lorenz surface, the linearized flow has eigenvalues A and, -p with $0 < A < p$. Thus the slope of the maps at the point of discontinuity tends to zero like $|x|^{1/(1-A)}$. Furthermore, the maps are defined on the interval I on which the two branches of the surface are glued together. These maps are piecewise monotonic with a single discontinuity which will be taken to be the point $x = 0$. Trajectories of the semi-flow which strike I at $x = 0$

The Viewer, with the Search and Details panels open

The screenshot shows the 'Journal Archives' interface with several panels open:

- Left Panel:** Shows a grid of thumbnails for various journal issues. A red box highlights the 'Thumbnails' tab at the top of the panel. A red arrow points from the text 'Close side panels using "X"' to the close button in the top right corner of this panel.
- Center Panel:** Displays the full text of an article titled 'The anharmonic route to chaos: kneading theory' by Paul Glendinning. The article includes author information, a short abstract, and AMS classification numbers. A red box highlights the first page of the article, and a red arrow points from the text 'Navigate using thumbnails' to this highlighted area.
- Right Panel:** Shows detailed metadata for the article. It includes fields for Journal, Article, Author, Volume, Issue, Pages, Publication date, and DOI. Below this, there are 'Download options' (PDF and RIS) and a 'Copy URL link for document' button. A red box highlights the 'Download publication as a PDF' and 'Download citation as RIS' buttons.