

Ei Compendex® is the most comprehensive bibliographic engineering database, covering 190 disciplines from the world's significant engineering and technology literature. Subjects include civil, energy, environmental, geological, and biological engineering; electrical, electronics, and control engineering; chemical, mining, metals, and fuel engineering; mechanical, automotive, nuclear, and aerospace engineering; computers, and robotics.

Comprehensive coverage of international engineering and technology includes, but is not limited to:

- Aeronautical and Aerospace Engineering
- Applied Physics (High Energy, Plasma, Nuclear and Solid State)
- Bioengineering and Medical Equipment
- Chemical Engineering, Ceramics, Plastics and Polymers, Food Technology
- Civil and Structural Engineering, Environmental Technology
- Electrical, Instrumentation, Control Engineering, Power Engineering
- Electronics, Computers, Communications
- Energy Technology and Petroleum Engineering
- Engineering Management and Industrial Engineering
- Light and Optical Technology
- Marine Engineering, Naval Architecture, Ocean and Underwater Technology
- Mechanical Engineering, Automotive Engineering and Transportation
- Mining and Metallurgical Engineering, Materials Science

**Date Coverage** 1884-present

**Update Frequency** Weekly

The following date ranges are also available separately: 1884-1968, 1969+, 1969–1989, 1990+  
A small number of records published before 1884 are available in Ei Compendex.

**Geographic Coverage** International

**Document Types** Journal articles, reports, books, conferences, book reviews

**Sources** Some 6,500 primary sources are monitored for articles of technological importance. Articles are drawn from journals, transactions, reports and special publications of engineering societies, scientific and technical associations, government agencies, universities, laboratories, research institutions and industrial organizations; proceedings of conferences, symposia and colloquia; monographs; standards; seminars and reports. Sources are from 58 countries and in 26 languages.

**Publisher**

Elsevier Engineering Information, Inc.  
Castle Point Terrace  
Hoboken, NJ 07030-5996  
USA

# Ei Compendex®

## Citation/Abstract [← Back to results](#)

Add to selected items

Order full text

Save to My Research

E-mail

### Multiple bifurcations in a harmonic oscillator with delayed feedback

Cao, Jianzhi; Yuan, Rong. **Neurocomputing** 122 : 172-180. Elsevier. (Dec 25, 2013)

Highlighting: Off | Single | Multi

[Show duplicate items from other databases](#)

TI  
AU, AUFN, AULN  
PUB

AB

#### Abstract (summary) [Translate](#)

In this paper, we consider a harmonic oscillator with delayed feedback. By studying the distribution of the eigenvalues of the characteristic equation, we drive the critical values where Bogdanov-Takens (B-T) bifurcation and zero-Hopf bifurcation occur. The versal unfoldings of the normal forms at the singularity of B-T and a pure imaginary and a zero eigenvalue singularity are given, respectively. Some numerical simulations verify the theoretical results. © 2013.

SU, SUBT

#### Indexing (details) [Cite](#)

**Subject** Hopf bifurcation (major); Eigenvalues and eigenfunctions; Oscillators (mechanical)

**Classification** 601.1: Mechanical Devices; 921: Applied Mathematics; 921.1: Algebra; 931: Applied Physics Generally

**Identifier (keyword)** Bogdanov-Takens bifurcations, Characteristic equation, Critical value, Delayed, Delayed feedback, Harmonic oscillators, Multiple bifurcations, Zero-Hopf bifurcations, Bogdanov-Takens bifurcation, Harmonic oscillator, Zero-Hopf bifurcation

TI

**Title** Multiple bifurcations in a harmonic oscillator with delayed feedback

AU

**Author** Cao, Jianzhi <sup>1</sup>; Yuan, Rong <sup>1</sup>

LA

**Language** English

SL

**Language of abstract** English

DTYPE

**Document type** Article

PUB

**Publication title** Neurocomputing

VO

**Volume** 122

PG

**Pagination** 172-180

ISSN

**ISSN** 09252312

**Electronic ISSN** 18728286

CODEN

**CODEN** NRCGE

PSTYPE

**Publication type** Journal

PB

**Publisher** Elsevier

PBLOC

**Publisher location** P.O. Box 211, 1000 AE, Netherlands

DOI

**DOI** <http://dx.doi.org/10.1016/j.neucom.2013.06.033>

**PII** S0925231213006474

PD

**Publication date** Dec 25, 2013

DCRE

**Date created** 2013-09-23

DSTAT

**Document status** New

**Source attribution** Ei Compendex, © Publisher specific

AN

**Accession number** 20133816768743

**Document URL** <http://search.proquest.com/professional/docview/1437539474?accountid=137296>

FAV

**Copyright** Copyright 2013 Elsevier B.V., All rights reserved.

UD

**First available** 2013-09-30

**Updates** 2013-09-30

**Database** Ei Compendex® (1800 - current)

## Search Fields

Field Name	Field Code	Example	Description and Notes
Abstract	AB	ab("zero-Hopf bifurcation")	Use adjacency and/or Boolean operators to narrow search results.
Abstract present	ABANY	"numerical simulations" AND abany(yes)	Add: AND ABANY(YES) to a query to limit retrieval to records with abstracts.
Accession number	AN	an(20133816768743)	A unique document identification number assigned by the information provider.
All Fields	ALL	all("harmonic oscillator" N/1 "delayed feedback")	Searches all fields in bibliographic files. Use adjacency and/or Boolean operators to narrow search results.
All fields + text	--	"harmonic oscillator" N/1 "delayed feedback"	Same as ALL field code. Searches all fields in bibliographic files.
Author <sup>1</sup>	AU	au("cao, jianzhi")	Includes all Authors.
Author First Name	AUFN	aufn(jianzhi)	
Author Last Name	AULN	auln(cao)	
First author	FAU	fau(rong, yuan)	First name listed in Author field. It is included in Author browse, but its position cannot be specified in the Author browse.
Author affiliation	AF	af(beijing normal university) af(france)	Displays in Correspondence author field. Includes as much data as is available in the original document, such as department, organization, address, city, state, country, author email, etc.
Classification <sup>1</sup>	CC,CL	cc("mechanical devices ") cl(601.1)	An alternative to CMDXCC for cross-file searching. Not available in pre-1970 data.
Compendex classification	CMDXCC	cmdxcc(applied mathematics)	Displays in Classification field. Not available in pre-1970 data.
CODEN	CODEN	coden(nrcge)	
Conference	CF	cf("2011 aaai workshop")	Includes conference name.
Conference event start date	ESDT, CDT	esdt(2011-08-07)	
Conference event end date	EVDT	evdt(2011-08-07)	
Conference location	CG	cg("columbus oh*") cg("vancouver bc")	

Field Name	Field Code	Example	Description and Notes
Conference sponsor	CS	cs(boeing) cs("northrop grumman")	Not available in pre-1970 data.
Country	CNT	cnt(netherlands)	Contains conference country. Not available in pre-1970 data.
Date created	DCRE	dcre(2013-09-03)	The date on which Elsevier created the record. Not available in pre-1970 data.
DOI	DOI	doi(10.1080/01431161.2011.566287 )	Search the portion of the DOI that comes after <a href="http://dx.doi.org/">http://dx.doi.org/</a> . Not available in pre-1970 data.
Document status	DSTAT	dstat(new)	
Document title	TI	ti(harmonic oscillator)	Includes Title, Alternate Title, Original Title, and Subtitle but not Publication Title (PUB).
Title only	TIO	tio(Wasseranalytik)	Searches only the Title, not Subtitle or Alternate Title.
Alternate title	OTI	oti(DATENVERARBEITUNG)	Includes Alternate title, Subtitle, and Original-language title if available.
Document type	DTYPE	dtype(article) dtype("conference paper")	
First available	FAV	fav(2013-09-30)	Indicates the first time a document was loaded in a specific database on Dialog. It will not change regardless of how many times the record is subsequently reloaded, as long as the accession number does not change.
From database <sup>2</sup>	FDB	"lignocellulosic biofuels" AND fdb(eicompindex) "lignocellulosic biofuels" AND fdb(10000131)	Useful in multifile searches to isolate records from a single file. FDB cannot be searched on its own; specify at least one search term then AND it with FDB.
ISBN	ISBN	isbn(0030099927) OR isbn(9780030099922)	Also searchable via the Look Up Citation tool. Not available in pre-1970 data.
Identifier (keyword)	IF	if("characteristic equation")	Not available in pre-1970 data.
ISSN	ISSN	issn(0925-2312) issn(09252312)	Also searchable via the Look Up Citation tool. Not available in pre-1970 data.

Field Name	Field Code	Example	Description and Notes
Issue	ISS	iss(12)	
Language	LA	la(french)	The language in which the document was originally published.
Language of abstract	SL	sl(english)	
Major subject	MJSUB	mjsub(hopf bifurcation)	
Pagination	PG	pg(172-180)	The start page is searchable on the Look Up Citation page.
Patent information	PAT	pat("dow chemical")	Patent information is only available between the years 1906- 1976.
Inventor	INV	inv(takagi, h)	
Patent application date	PAD	pad(1965-09-28)	
Patent assignee	AP	ap("sakai chemical industry co")	
Patent publication date	PDA	pda(19690617)	
Patent publication number	PN	pn(3450585)	
Patent publication country	PC	pc(gb) pc(us)	
Publication date	PD	pd(20081001) pd(>=20110415) pd(20100101-20101231)	Date range searching is supported.
Publication title <sup>1</sup>	PUB	pub(neurocomputing)	Publication title including full and abbreviated form of Journal name.
Publication year	YR	yr(2007) yr(2011-2012) yr(<2009)	Date range searching is supported.
Publisher	PB	pb("taylor and francis")	
Publisher city	PBCITY	pbcity(london) pbcity(abingdon oxfordshire)	
Place of publication	CP	cp(china)	Country of publication.
Source information	SRC	src("radiation physics and chemistry") AND yr(2011)	
Subject <sup>1</sup>	SU	su(oscillators (mechanical))	Includes Subject and Identifier (keyword).

Field Name	Field Code	Example	Description and Notes
Main subject	SUBT	subt("eigenvalues")	SUBT searches terms from the Subject display field only.  Terms selected from the Subject filter use the SUBT field code.
Updated	UD	ud(2013-09-30)	The date(s) the record was loaded as a result of an update provided by the supplier.
Volume of publication	VO	vo(122)	Also searchable via the Look Up Citation tool.

<sup>1</sup> A Lookup/Browse feature is available for this field in the Advanced Search dropdown or in Browse Fields.

<sup>2</sup> Click the "Field codes" hyperlink at the top right of the Advanced Search page. Click "Search syntax and field codes", then click on "FDB command" to get a list of database names and codes that can be searched with FDB.

## Search Tools

Field codes are used to search document fields, as shown in the sample document. Field codes may be used in searches entered on the Basic Search, Advanced Search, and Command Line search pages. Limit options, Look up lists, and "Narrow results by" filters tools are available for searching. Some data can be searched using more than one tool.

## Limit Options

Limit options are quick and easy ways of searching certain common concepts. Check boxes are available for:

### **Abstract included**

Short lists of choices are available for:

### **Document type, Language**

**Date limiters** are available in which you can select single dates or ranges for date of **publication** and **updated**.

## Browse Fields

You can browse the contents of certain fields by using Look Up lists. These are particularly useful to validate spellings or the presence of specific data. Terms found in the course of browsing may be selected and automatically added to the Advanced Search form. Look Up lists are available in the fields drop-down for:

**Author, Classification, Publication title, Subject, Major subject**

## "Narrow Results by" Filters

When results of a search are presented, the results display is accompanied by a list of "Narrow results by" options shown on the right-hand panel. Click on any of these options and you will see a ranked list showing the most frequently occurring terms in your results. Click on the term to apply it to ("narrow") your search results. "Narrow results by" limiters in Ei Compendex include

**Author, Classification, Document type, Language, Publication title, Subject, and Publication date**

## Look Up Citation

If you need to trace a particular bibliographic reference, use the Look Up Citation feature. Find a link to this toward the top left-hand corner of the Advanced Search page, or in the drop list under Advanced on any search form; click this and you

will go to a form where you can enter any known details of the citation, including document title, author, journal name, volume, issue, page, publication date, ISSN.

## Document Formats

Predefined document formats are available for viewing and download. Search results can be downloaded with the Download all results, Email, Print and Export/Save options, and when creating an alert. To design your own download format, choose the "Custom" format option and check the fields to be displayed.

Document Format	Fields	Online	Export/Download
<b>Brief view</b>	Title and Publication date.	✓	
<b>Detailed view</b>	Brief view plus a 3-line KWIC window.	✓	
<b>KWIC (Keyword in Context)</b>	Detailed view plus all occurrences of your search term highlighted in the field(s) where the terms occur.	✓	✓
<b>Preview (subscribers only)</b>	Detailed view plus Author, Publication title, Volume, Issue, Pagination, Subject, and Abstract.	✓	
<b>Preview (transactional)</b>	Title, Publication date, abbreviated Abstract	✓	
<b>Brief citation</b>	The record minus the Abstract and indexing.	✓	✓
<b>Citation/Abstract</b>	The complete record.	✓ <sup>1</sup>	✓
<b>Custom</b>	Choose the fields you want		✓ <sup>2</sup>

<sup>1</sup> In Online-view mode, Dialog gives access to two Document Formats only: Brief citation, and the 'most complete' format available. Depending on the database, or the amount of data available for a record, the most complete format may be any one of Citation, Citation/Abstract, Full text, or Full text – PDF.

<sup>2</sup> Custom export/download format is available in the following mediums only: HTML, PDF, RefWorks, RTF, Text only, XLS.

### Terms & Conditions

Elsevier Engineering Information, Inc. has copyrighted the compilation and indexing of Ei Compendex. Ei Compendex® is a registered trademark of Elsevier Engineering Information, Inc.

Ei Compendex®: Use or copies of all or part of Ei Compendex for replacing this database, or the lease, license, or purchase of any publication listed in the Engineering Index catalog is not authorized. The use of materials supplied hereunder or any copies thereof for the purpose of loan, resale, rental use, or gift to any third person, organization or corporation is strictly forbidden. No part of Ei Compendex may be copied in machine-readable form for delivery to or made available for the use of any third party.

[Dialog Standard Terms & Conditions](#) apply.

Contact: **Dialog Global Customer Support**

Email: [Customer@dialog.com](mailto:Customer@dialog.com)

Within North America **1 800 334 2564**

Outside North America **00 800 33 34 2564**