

Easy Search Quick Search Expert Search Thesaurus **eBook Search** Ask a

PaperChem: Pulp & paper index with chemical emphasis

SELECT DATABASE

All Compendex Inspec PaperChem Referex ?

- **Inspec & Compendex: Indexes to conference and journal papers**
 - Inspec -- Electrical engineering, computer engineering, physics, optics, computer science, controls
 - Compendex – All areas of engineering
 - “**Select Database**” search both Inspec and Compendex
 - **20% overlap** between Inspec and Compendex
- **Books.** Referex Engineering -- Elsevier’s searchable database providing access to the full text of over 300 engineering books. Click on “**eBook Search**” (top right)

Fast Searches in Inspecc & Compendex Browsing for a few papers on a topic

- **Limit By** (Drop down menus)
 - **“Journal article”** (Document Type)
Find It @ GT works properly for most journal papers, but seldom for conference papers
 - **“General review”** (Treatment Type)
 - **“English”** (Language)
 - **Date** (recent range of years)
- Add **synonyms** to your search strategy. Check:
 - **Title, Abstract, Subject** Heading fields
 - **Thesauri** (online)
 - **Bibliographies**/references at the end of similar papers and footnotes

LIMIT BY

Journal article

General review

English

2000 TO 2008

SORT BY

Relevance Publication year

[Sort By: Relevance]

Inspec 1896+ and Compendex 1884+

- **Choose Format**. Default is "Citation" (only title).
 - Use "**Detailed** record" (for email, print, download – after "Select range")
- **Remove Duplicates**. Fewer errors in Inspec records.
 - **Choose "Database Preferences: Inspec"**
Duplicate records will be removed from the first 1000 records.
- **Exact phrase** within **quotes (" ")**
- **Truncation** is **asterisk (*)**. Use left truncation with care (*sorption returns absorption)
- Wildcard (?) replaces single character (wom?n).
H*emoglobin finds haemoglobin
- **Truncation and wild cards cannot** be used within exact **phrases** (quotation marks/quotes or braces), or used with the near or onear command

Inspec 1896+ and Compendex 1884+

- **Proximity**. No truncation within **NEAR/#** or **ONEAR/#**.
 - 0-x terms, **any order**: laser **NEAR/4** diode.
 - 0-x terms, **order entered**: laser **ONEAR/5** diode
 - The near and onear commands do not work with truncation, wildcards, parenthesis, quotes or braces
 - Truncation and stemming cannot be used within quotation marks or braces
 - **Stemming** can be used with the **proximity** operators **if** **ALL** of the terms are stemmed. For example, \$electric **ONEAR/0** \$guitars will find "electric guitar" or "electric guitars" but might also find "electrical guitars."
 - **Phrase**: quotes " " or International **ONEAR/0** space **ONEAR/0** station
- **Autostemming** -- Autostems all key words except for Author names and words in quotations and/or braces. Using truncation or wildcards will turn off the stemming feature

Inspec 1896+ and Compendex 1884+

- **Search History.** Manipulate previous search statements with Boolean logic operators and keywords.
 - Example: #5 and ((simulat* or model*) wn CV)
 - Example: (#1 or #3) not #2
- Open **Word** file and keep track of search statement #s
- **Select Database:** INSPEC 1896+ **and** Compendex 1884+
- Inspec and Compendex have **different**
 - "**Controlled** Terms" (**thesaurus** subject headings)
 - "Document Types" and "Treatment Types"
- Compendex "**Document** Types" and "**Treatment** Types" are only for **1985**+. Unique "Types" in each database
- "Limit By"-- Reverts to default date for each new search.
- "Quick Search" or "Expert Search" or "Easy Search"
- "Autostemming **On**" is the default for "Quick Search"

Author Names

- Author formats differ in each database
- **INSPEC** - - Only author **initials**
- **Compendex** - - Author names are as written in paper (initials or first names)
- Use "**Browse** Indexes" "**Author**" with "**Expert** Search"
- Note **both spaces** and **commas** after surnames

Author Names

- **Compendex “Author Affiliation”** Field
 - Prior to **2001**, the official Compendex policy was to provide the institutional affiliation of the **first** author or editor.
 - Since 2001, the affiliation of the Compendex **corresponding** author has been given instead (Compendex)
- Beginning **March 16, 2009**, for **Compendex and PaperChem**, the following fields will be added or modified:
 - **Multiple Author Affiliations** - Multiple authors will now be listed in the author affiliations field. Now, if an article has more than one author, all of the names and affiliated institutions will appear
 - A corresponding author and **email field** will be added to the detailed record display. For those records with multiple author affiliations, the contact information of the lead author will appear

[Easy Search](#) | [Quick Search](#) | **[Expert Search](#)** | [Thesaurus](#) | [eBook Search](#) | [Ask an Expert](#) | [Help](#)

SELECT DATABASE

All Compendex Inspec PaperChem Referex [?](#)

ENTER SEARCH TERMS BELOW

SEARCH FROM

1884 [?](#) To 2005 [?](#)
 1 [?](#) Updates [?](#)

SORT BY

Relevance Publication year

[Search](#)

[Reset](#)

Browse Indexes

[Author](#)

[Author affiliation](#)

[Controlled term](#)

[Language](#)

[Serial title](#)

[Publisher](#)

[Treatment type](#)

[Document type](#)

[Discipline](#)

Search by Author name (more than last name)

- "Expert Search" and then
- "Browse Indexes" -- "Author"
- Inspec, Compendex, PaperChem

[Inspec](#)
[1896+](#) &
[Compendex](#)
[1884+](#)

Search for: Find

Click on letter below to browse index:
[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#)

Select terms below to add to search

Connect terms with: AND OR

Compendex only INSPEC only
 Compendex & INSPEC

Clough, g

- CLOUGH, G WAYNE
- CLOUGH, G.
- CLOUGH, G. A.
- CLOUGH, G. F. G.
- CLOUGH, G. W.
- CLOUGH, G. WAYNE
- CLOUGH, G.A.
- CLOUGH, G.C.
- CLOUGH, G.F.G.
- CLOUGH, G.H.
- CLOUGH, G.W.
- CLOUGH, GEORGE H.
- CLOUGH, GERALDINE F.
- CLOUGH, GRAHAM

Search for: Find

Click on letter below to browse index:
[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#)

Select terms below to add to search

Connect terms with: AND OR

Compendex only INSPEC only
 Compendex & INSPEC

Clough g

- CLOUGH GW

Authors: Search **BOTH**

- Last name **space**
- Last name **comma**

[Inspec 1896+](#)

[Compendex 1884+](#)

Author name search. Expert Search

ENTER SEARCH TERMS BELOW

```
((CLOUGH GW) WNAU) OR ((CLOUGH, G WAYNE) WNAU) OR ((CLOUGH, G.) WNAU) OR ((CLOUGH, G. W.) WNAU) OR ((CLOUGH, G. WAYNE) WNAU) OR ((CLOUGH, G.W.) WNAU)
```

- **Inspec** does not use authors' first names, but only their **initials**
- Use of the **Author Browse Index** is strongly recommended for both Inspec and Compendex in order to make selections from all the possible **variations** on an author's name

- Compendex Author names can be truncated by using an asterisk (*) as the truncation symbol:

*Smith, A** will retrieve

Smith, A.

Smith A.A.

Smith A.B.

Smith, A. Brandon

Smith, Aaron

Smith Aaron C. etc.

IEEE Explore

- Full image [content](#) available in [IEEE Xplore](#): IEEE and IEE/IET journals and conference proceedings **from 1988**, with **select** content **before 1988**
- Check the [Classic GT Catalog](#) for print copies (older and joint papers)
- Use [Inspec/Compendex](#) (1896+/1884+) for searching! **IEEE Xplore** is a **subset** of the [Inspec](#) database. Inspec writes the abstracts for IEEE Xplore. Use [IEEE Xplore](#) as document delivery for IEEE, IEE and IET papers
- [Inspec/Compendex](#) & [CSA](#) databases index a very large number and wide variety of Library owned **electronic** and print publications (such as **AIAA, ACM, SPIE, ASME, OSA, AIP, IOP, IPC, APS, SIAM, Elsevier, Springer, Wiley, North Holland, Taylor & Francis**, MIT Press, Pergamon Press, Kluwer, Academic Press, Chapman and Hall, and many others) **not covered** by IEEE Xplore
- Please "Log-Out" when finished (*simultaneous users* limit)

Inspec 1896+ and Compendex 1884+

Village 2

[Search History](#) - [Selected Re](#)

Easy Search

Quick Search

Expert Search

Thesa

SELECT DATABASE

All Compendex Inspec PaperChem Referex ?

SEARCH FOR

clough or giddens or chameau

AND

AND

SEARCH IN

Author

Author affiliation

All fields

Inspec: **Author**
Affiliation field
uses **only one**
author

LIMIT BY

All document types ?

All treatment types ?

Discipline type not available ?

English

SORT BY

Relevance ? Publication year

Autostemming off

1884 TO 2006

1 Updates ?

Search

Reset

Inspec 1896+ and Compendex 1884+

SEARCH FOR

model* or simulat* or algorith

OR

model* or simulat* or algorithm*

AND

SEARCH IN

Title

Controlled term

All fields

LIMIT BY

All document types

All treatment types

All languages

1884

TO

2005

SORT BY



Relevance



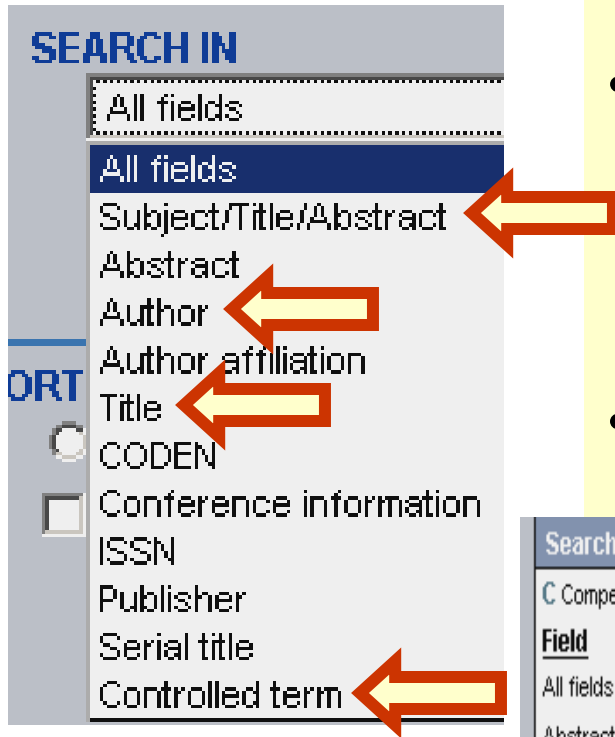
Publication year



Autostemming off

- Restrict to **Field**
- "Limit By"
- Earliest possible publication date is 1884/1896

- Search by **Fields** (Author, Title ...)
- **Controlled terms** (thesaurus terms)
 - **Controlled terms** can be **different** for each database and can have **restricted date** coverage
- **Uncontrolled terms** (**identifiers**)



Search by Fields

Author AU

Title TI

Controlled term CV

Uncontrolled term FL

First Author affiliation AF

Subject/Title/Abstract KY

Search Codes ?					
C Compendex Inspec					
Field	Code	Field	Code	Field	Code
All fields (C, I)	ALL	Conference information (C, I)	CF	Numerical indexing (I)	NI
Abstract (C, I)	AB	Controlled term (C, I)	CV	Patent issue date (C)	PI
Accession number (C, I)	AN	Country of application (C)	PU	Patent number (C)	PM
Astronomical indexing (I)	AI	Discipline (I)	DI	Publisher (C, I)	PN
Author (C, I)	AU	Document type (C, I)	DT	Serial title (C, I)	ST
Affiliation (C, I)	AF	Patent application date (C)	PA	Subject/Title/Abstract (C, I)	KY
Chemical indexing (I)	CI	ISBN (C, I)	BN	Title (C, I)	TI
Classification code (C, I)	CL	ISSN (C, I)	SN	Treatment type (C, I)	TR
Original classification code (I)	OC	Language (C, I)	LA	Uncontrolled term (C, I)	FL
CODEN (C, I)	CN	Ei main heading (C)	MH		
Conference code (C)	CC	Material identity number (I)	MI		



Search History -

Top of Screen. Choose "Search History"

Search History

- Combine previous searches in **same database**
- Manipulate **previous search statement** numbers with **Boolean Operators** and **keywords**
- Can add keywords. "Search History" example:
#1 and #2 and (laser* wn ti)
- Open a **Word document** and **keep track** of search statement **line numbers**
- **Alerts** and **Save Search** – **one line only**
- Combined search set is one long string of keywords. The search strategy is lost. Search history does not repeat search statement numbers
- Example. Combine command -- lose statement numbers:
#4 displays as keywords, not as (#1 and #2 and #3)

Search History



Search History ?

No.	Type	Search	Autostem	Sort Results	Year(s)	Database
1.	Expert	((simulat* or model* or algorithm*) wn TI) or ((simulat* or model* or algorithm*) wn CV)	Off	▼ Date	2639115 1884-2006	Compendex & Inspec
2.	Expert	(("biomedical engineering" or (biomedical NEAR/2 engineers) or (biomedical NEAR/2 engineer) or biotechnolog* or ((medicine or medical or biolog*) and engineer*) or bioengineer*) wn KY)	Off	▼ Date	116768 1884-2006	Compendex & Inspec
3.	Expert	((mems or (micro NEAR/2 electromechanical) or ("micro electro mechanical") or microelectromechanical*) wn KY)	Off	▼ Date	31198 1884-2006	Compendex & Inspec

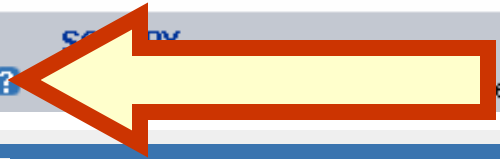
[Clear Search History](#)

Can also include **keywords**. Example:
#1 and #2 and #3 and ((Ehrfeld or Borenstein) wn au)

Combine Previous Searches

ENTER SEARCHES TO COMBINE

[Search](#) [Reset](#)

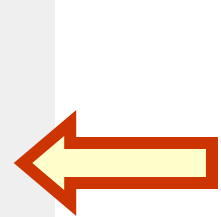


Combined Search

Combine searches listed in the Search History as follows:

- (#1 AND #2)
- (#1 AND #2) OR (#3 AND #4)
- (#1 OR #3) NOT #2

Combine searches executed in the same database only.



New Search

Search History ?

No.	Type	Search	Autostem	Sort Results	Year(s)	Database	E-mail Alert	Save Search
1.	Expert	((simulat* or model* or algorithm*) wn TI) or ((simulat* or model* or algorithm*) wn CV)	Off	▼ Date	2639115 1884-2006	Compendex & Inspec	<input type="checkbox"/>	Save
2.	Expert	(("biomedical engineering" or (biomedical NEAR/2 engineers) or (biomedical NEAR/2 engineer) or biotechnolog* or ((medicine or medical or biolog*) and engineer*) or bioengineer*) wn KY)	Off	▼ Date	116768 1884-2006	Compendex & Inspec	<input type="checkbox"/>	Save
3.	Expert	((mems or (micro NEAR/2 electromechanical) or ("micro electro mechanical" or microelectromechanical*) wn KY)	Off	▼ Date	31198 1884-2006	Compendex & Inspec	<input type="checkbox"/>	Save
4.	Combined	((((simulat* OR model* OR algorithm*) WN TI) OR ((simulat* OR model* OR algorithm*) WN CV)) AND (1884-2006 WN YR)) and (((biomedical engineering) OR (biomedical NEAR/2 engineers) OR (biomedical NEAR/2 engineer) OR biotechnolog* OR ((medicine OR medical OR biolog*) AND engineer*) OR bioengineer*) WN KY)) AND (1884-2006 WN YR)) and (((mems OR (micro NEAR/2 electromechanical) OR ((micro electro mechanical)) OR microelectromechanical*) WN KY)) AND (1884-2006 WN YR))		▼ Date	81	Compendex & Inspec	<input type="checkbox"/>	Save

Clear Search History

Saved Search

- “**Combined**” does **not** indicate #1 and #2 and #3. Only gives keyword result (after “Combined”)
- Open **Word file** and copy statement lines
- **Email Alert** and **Save Search** both save only **one line**

Refine Search New Search

Next Page 1-25

Results Management

Select all on page - Select range: [] to [] 90 - Clear all on page - Clear all selections

Choose format: Citation Abstract Detailed record [x] Clear selected records on new search

View Selections E-Mail Print Download Save to Folder

Refine Results

Include

Database

- Compendex (65)
- Inspec (16)

Author

- Ehrfeld, Wolfgang (6)
- Ehrfeld, Ursula (5)
- Borenstein, J. T. (4)
- Kaazempur, Mofrad M. R. (4)
- Vacanti, J. P. (4)
- Kelly, G. (3)
- Pahi, A. (3)
- Rencz, M. (3)
- Alderman, J. (3)

Controlled Vocabulary

- Microelectromechanical Devices (53)
- Computer Simulation (38)
- Biomedical Engineering (26)
- Mathematical Models (23)
- Biotechnology (16)
- Nanotechnology (9)
- Microelectronics (8)
- Finite Element Method (8)
- Sensors (7)
- Biosensors (7)
- Micromachining (7)
- Micromechanical Devices (7)
- Algorithms (7)

Search Results

81 records in Compendex & Inspec for Remove Duplicates - Save Search - Create Alert - RSS ?

+(((simulat* OR model* OR algorithm*) WN TI) OR (((simulat* OR model* OR algorithm*) WN CV) AND (1884-2006 WN YR)) and (((biomedical engineering) OR (biomedical NEAR/2 engineers) OR (biomedical NEAR/2 engineer) OR biotechnolog* OR ((medicine OR medical OR biolog*) AND engineer*) OR bioengineer*) WN KY) AND (1884-2006 WN YR) and (((mems OR (micro NEAR/2 electromechanical) OR (micro electro mechanical) OR microelectromechanical*) WN KY) AND (1884-2006 WN YR))

Sort by: Relevance Date Author Source Publisher

1. Evolutionary computation technologies for the automated design of space systems

Terrile, R.J. (Jet Propulsion Lab., California Inst. of Technol., Pasadena, CA, USA); Aghazarian, H.; Ferguson, M.J.; Fink, W.; Huntsberger, T.L.; Keymeulen, D.; Klimeck, G.; Kordon, M.A.; Seungwon Lee; von Allmen, P. Source: Proceedings. 2005 NASA/DoD Conference on Evolvable Hardware (EH 2005), 2005, p 131-8

Database: Inspec

Abstract - Detailed

Find It GT

- **Refine Results.** List of
 - Authors
 - Controlled Vocabulary (differs by database)
- **Refine Search** keeps settings
- **New Search** reverts to defaults

Results Manager

Select all on page - Select range: to - [Clear all on page](#) - [Clear all selections](#)

Choose format: Citation Abstract Detailed record Clear selected records on new search

Search Results

81 records in Compendex & Inspec [Remove Duplicates](#) - [Save Search](#) - [Create Alert](#) - [RSS](#) ?

[+ \(\(\(\(simulat* OR model* OR algorithm*\) WN TI\) OR \(\(simulat* OR model* OR algorithm*\) WN CV\)\) AND \(1884-2006 WN YR\)\) and \(\(\(\(biomedical engineering} OR \(biomedical NEAR/2 engineers\) OR \(biomedical NEAR/2 engineer\) OR biotechnolog* OR \(\(medicine OR medical OR biolog*\) AND engineer*\) OR bioengineer*\) WN KY\)\) AND \(1884-2006 WN YR\)\) and \(\(\(\(mems OR \(micro NEAR/2 electromechanical\) OR \({micro electro mechanical}\) OR microelectromechanical*\) WN KY\)\) AND \(1884-2006 WN YR\)\)](#)

Sort by: [Relevance](#) ▼ [Date](#) [Author](#) [Source](#) [Publisher](#)

Sort By: Date/Year, Relevance, Author, Source

Remove Duplicates

Duplicate records will be removed from the first 1000 records in the result set. Use the database that you prefer to see results from.

Field Preferences: ?

- No field preference
- Has Full Text
- Has Abstract
- Has Index Terms

Database Preferences: ?

Inspec

- **“Remove Duplicates”**
- **Choose Inspec**
(fewer errors in Inspec records)

Results ManagerSelect all on page - Select range: 1 to 77 [for all selections](#)**Choose format:** Citation Abstract Detailed record [new search](#)[View Selections](#)[E-Mail](#)[Print](#)[Download](#)[Save to Folder](#)**Deduplication Summary** (First 1000 search results)Deduplication
criteria

No Field Preferred; Inspec Preferred

81 Total records for (((simulat* OR model* OR
(1884-2006 WN YR)) and ({{{biomedical engi
Original search OR biotechnolog* OR ((medicine OR medical
YR)) and ({{{(mems OR (micro NEAR/2 electro
KY)) AND (1884-2006 WN YR))Duplicates
removed

4 Total (4 Compendex)

Deduplicated
set

77 Total (61 Compendex, 16 Inspec)

 1. **Evolutionary computation technologies for th**[Terrile, R.J.](#) (Jet Propulsion Lab., California Inst. of Techno[T.L.](#); [Keymeulen, D.](#); [Klimeck, G.](#); [Kordon, M.A.](#); [Seungw](#)*Evolvable Hardware (EH 2005)*, 2005, p 131-8**Database:** Inspec

- Session will **expire** after 20 minutes of inactivity
- **"Select Range"** or check boxes
- **"Choose Detailed record Format:"** (**not** "Citation"). DOI# is only in "Detailed" record format
- E-mail or Print or Download records to avoid being **timed out**

Journal Articles

- **ISSN.** Copy and paste journal ISSN number to [Classic GT Catalog](#) "Exact Search"
- **Journal Name.** Copy and paste **exact** journal name to [Classic GT Catalog](#)
- **Find It GT.** The "Find It GT" command usually (but not always) works correctly for journals. Occasionally journal "Find It GT" fails when a [Catalog](#) record exists and shows print/paper holdings in the "Library has:" fields

Journal Articles

- **Separate** Catalog records may exist for **print**/paper and **electronic** volumes (electronic usually comes first)
- Note **print** and **electronic** publication **date** (year) coverage and **title changes**
- Watch for **aggregator e-journal** restricted **embargo dates** and **selective coverage** (ProQuest, EBSCOhost, Factiva, GaleGroup, Lexis Nexis, etc.)

Title: Modern spectral analysis techniques for blood flow velocity and spectral measurement using pulsed Doppler ultrasound

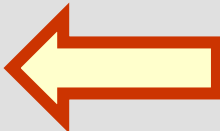


Authors: [David, J.-Y.](#); [Jones, S.A.](#); [Giddens, D.P.](#)

Authors (Initials)
One Author Affiliation

Author affiliation: Georgia Inst. of Technol., Atlanta, GA, USA

Source title: IEEE Transactions on Biomedical Engineering



Journal Title

Abbreviated source title: IEEE Trans. Biomed. Eng. (USA)

Volume: 38

Issue: 6

Inspec 1896+

Publication date: June 1991

Pages: 589-96

Language: English

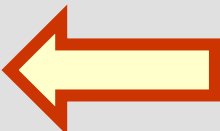
ISSN: [0018-9294](#)



ISSN #
Journal Article

CODEN: [IEBEAX](#)

Document type: Journal article (JA)



Country of publication: USA

Abstract: Four spectral analysis techniques were applied to pulsed Doppler ultrasonic quadrature phase shift keying (QPSK) signals to compare the relative merits of each technique for estimation of flow velocity and Doppler shift. The four techniques were (1) the fast Fourier transform method, (2) the maximum likelihood method, (3) the Burg autoregressive algorithm, and (4) the modified covariance approach to autoregressive modeling. Both simulated signals and signals obtained from an in vitro flow system were used. Optimal parameter values (e.g. model orders) were determined for each method, and the effect of signal-to-noise ratio and signal bandwidth were investigated. The modern spectral analysis techniques were shown to be superior to Fourier techniques in most circumstances, providing

Inspec 1896+

four techniques were (1) the fast Fourier transform method, (2) the maximum likelihood method, (3) the Burg autoregressive algorithm, and (4) the modified covariance approach to autoregressive modeling. Both simulated signals and signals obtained from an in vitro flow system were studied. Optimal parameter values (e.g. model orders) were determined for each method, and the effects of signal-to-noise ratio and signal bandwidth were investigated. The modern spectral analysis techniques were shown to be superior to Fourier techniques in most circumstances, provided the model order was chosen appropriately. Robustness considerations tended to recommend the maximum likelihood method for both velocity and spectral estimation. Despite the restrictions of steady laminar flow, the results provide important basic information concerning the applicability of modern spectral analysis techniques to Doppler ultrasonic evaluation of arterial disease

Number of references: 19

INSPEC controlled terms: [biomedical ultrasonics](#) | [Doppler effect](#) | [haemodynamics](#) | [spectral analysis](#)

Uncontrolled terms: [optimal parameter values](#) | [spectral analysis techniques](#) | [blood flow velocity](#) | [spectral measurements](#) | [pulsed Doppler ultrasound](#) | [quadrature signals](#) | [maximum likelihood method](#) | [Burg autoregressive algorithm](#) | [simulated signals](#) | [in vitro flow system](#) | [model orders](#) | [signal-to-noise ratio](#) | [signal bandwidth](#) | [Fourier techniques](#) | [steady laminar flow](#) | [arterial disease](#)

INSPEC classification codes: [A8760B](#) Sonic and ultrasonic radiation (medical uses) | [A8770E](#) Patient diagnostic methods and instrumentation | [A8745H](#) Haemodynamics, pneumodynamics

Treatment: Theoretical (THR); Experimental (EXP)

Discipline: Physics (A)

Database: INSPEC

Copyright 2003, IEE

Full-text and Local Holdings Links

Find It  GT

- **Controlled** terms CV (Inspec thesaurus terms)
- **Uncontrolled** terms FL

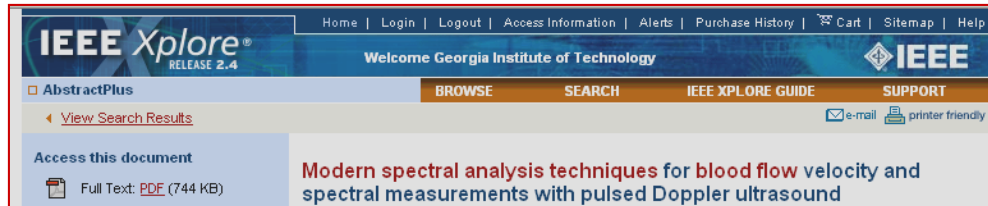
- “**Find It GT**” will work for most (but not all) **journal** articles.
- [IEEE Xplore](#) database: **IEEE or IEE or IET** journal & conference papers **1988** to present; **selected** papers **before 1988**. Simultaneous user restrictions; logout when finished. Look for **print** volumes in [Classic GT Catalog](#) **before 1988** (standing orders) and for joint conferences

Full-text and Local Holdings Links

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AbstractPlus

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Access this document

Full Text: PDF (744 KB)

Modern spectral analysis techniques for blood flow velocity and spectral measurements with pulsed Doppler ultrasound

e-mail printer friendly

Modern Spectral Analysis Techniques for Blood Flow Velocity and Spectral Measurements with Pulsed Doppler Ultrasound

Jean-Yves David, Steven A. Jones, *Member, IEEE*, and Don P. Giddens

Abstract—Four spectral analysis techniques were applied to pulsed Doppler ultrasonic quadrature signals to compare the relative merits of each technique for estimation of flow velocity and Doppler spectra. The four techniques were 1) the fast Fourier transform method, 2) the maximum likelihood method, 3) the Burg autoregressive algorithm, and 4) the modified cov-

A number of spectral estimation techniques have recently been developed and have been compared to the more standard fast Fourier transform (FFT) method for Doppler ultrasonic signal processing. The most common of these methods are autoregressive (AR), moving aver-

- Beware of “Full Text” “Find It GT” e-journal links.
- Many aggregator E-journals have selective coverage and embargo dates.

□ 1. **Nanotube nanotweezers**

[Kim, P.](#) (Div. of Eng. & Appl. Sci., Harvard Univ., Cambridge, MA, USA); [Lieber, C.M.](#) **Source:** *Science*, v 286, n 5447, 10 Dec. 1999, 2148-50

ISSN: 0036-8075 **CODEN:** SCIEAS

Publisher: American Assoc. Adv. Sci, USA

Abstract: Nanoscale electromechanical systems-nanotweezers-based on carbon nanotubes have been developed for manipulation and interrogation of nanostructures. Electrically conducting and mechanically robust carbon nanotubes were attached to independent electrodes fabricated on pulled glass micropipettes. Voltages applied to the electrodes closed and opened the free ends of the nanotubes, and this electromechanical response was simulated quantitatively using known nanotweezer structure and nanotube properties. The mechanical capabilities of the nanotweezers were demonstrated by grabbing and manipulating submicron clusters and nanowires. The conducting nanotube arms of the tweezers were also used for measuring the electrical properties of silicon carbide nanoclusters and gallium arsenide nanowires (26 refs.)

Inspec controlled terms: [carbon nanotubes](#) - [micromanipulators](#) - [nanotechnology](#)

Classification Code: [A0660S](#) Positioning and alignment; manipulating, remote handling - [A0710C](#) Micromechanical devices and systems - [B2230F](#) Fullerene, nanotube and related devices - [B2550N](#) Nanometre-scale semiconductor fabrication technology - [B2575](#) Micromechanical device technology

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Kim yr:1999 vol:286 iss:5447 pg:2148 -50

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Title: Numerical study of an asymmetrical stenosis

Authors: [Jin, Suo](#); [Giddens, Don P.](#)

Author name as in paper

Author affiliation: Georgia Inst of Technology and Emory Univ Sch of Medicine, Atlanta, GA, USA

Source title: American Society of Mechanical Engineers, Bioengineering Division (Publication) BED

Abbreviated source title: ASME Bioeng Div Publ BED

Volume: v 39

Monograph title: Advances in Bioengineering

Publication year: 1998

Pages: p 63-64

Language: English

CODEN: [ASMBEP](#)

Document type: Conference article (CA)

Conference name: Proceedings of the 1998 ASME International Mechanical Engineering Congress and Exp

Conference date: Nov 15-20 1998

Conference location: Anaheim, CA, USA

Conference code: [49454](#)

Sponsor: ASME

Publisher: ASME, Fairfield, NJ, USA

Conference article

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Abstract: Wall shear stress (WSS) and the flow dynamics in an asymmetrical aortic stenosis model were investigated using computational fluid dynamics. The study aims to determine whether the local flow environment of a raised eccentric plaque contains characteristics that have been associated with biological activity relevant to plaque rupture.

Number of references: 5

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Ei controlled terms: [Cells](#) | [Wall flow](#) | [Shear stress](#) | [Physiological models](#) | [Computational fluid dynamics](#) | [Equations](#) | [Mathematical models](#)

Uncontrolled terms: [Asymmetrical stenosis](#) | [Wall shear stress \(WSS\)](#) | [Endothelial cells](#)

Ei classification codes: [461.1 Biomedical Engineering](#) | [631.1 Fluid Flow, General](#) | [461.2 Biological Materials](#) | [723.5 Computer Applications](#) | [931.1 Mechanics](#) | [921.2 Calculus](#)

Treatment: Theoretical (THR)

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Title: 1998 advances in bioengineering : presented at the 1998 ASME Congress and Exposition : November 15-20, 1998, Anaheim, Bioengineering Division, ASME ; edited by Ajit P. Yoganathan

Publisher: New York, N.Y. : American Society of Mechanical Engineers,

Description: xx, 421 p. : ill. ; 28 cm.

Series: [BED ; vol. 39](#)

Notes: Includes bibliographical references and index.

Subject(s): [Bioengineering Congresses.](#)
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micromechanical devices

Introduced: January 1991

Related classification codes: A0710C: Micromechanical devices and systems; B2575: Micromechanical device technology; B8340: Small and special purpose electric machines; E1780: Products and commodities; E3644V: Mechatronics industry