

# BioEngineering Abstracts

## FILE DESCRIPTION

**BioEngineering Abstracts** provides bibliographic coverage from recent worldwide literature sources of research, applications, regulatory developments and new patents across all areas of bioengineering including medical, pharmaceutical, agricultural, environmental and marine biology. BioEngineering Abstracts is produced by CSA and corresponds to four print journals (all no longer in print).

Informative abstracts are included for about 99% of the records.

## SUBJECT COVERAGE

- Agricultural applications
- Antibiotics, antitumor agents, antiviral agents
- Antibodies and other immunological substances
- Antisense technology
- Aquaculture and fisheries
- Bioengineering
- Biomaterials and biopolymers
- Biomedical engineering and equipment
- Bioinformatics
- Bioreactors and enzymes
- Bioremediation and phytoremediation
- Biosensors
- Cell culture and cryopreservation
- Cloning
- Combinatorial chemistry
- Cybernetics
- Drug delivery systems
- Energy applications
- Environmental applications
- Fermentation and process engineering
- Food biotechnology
- Genetic engineering and gene therapy
- Marine applications
- Medical applications, diagnostics, imaging techniques
- Methodology
- Neurocomputing and neural networks
- Pharmaceuticals
- Tissue engineering
- Vaccines

## SOURCES

In addition to international journal coverage, **BioEngineering Abstracts** includes data on selected books, conference reports, and U.S. patents.

## TIPS

### USE FILE 136

to search for all information relating to bioengineering topics.

### USE /TI AND /DE

for precise subject searching:

S ARTIFICIAL(W)INTELLIGENCE/TI,DE

### USE SUBJECT HEADINGS or

### SUBJECT HEADING CODES

to narrow a search to a topic.

S SH=CONTROL SYSTEMS

S SC=731.1

### USE RANK

to find experts working in an area of interest.

S ARTIFICIAL INTELLIGENCE

RANK AU

## DIALOG FILE DATA

Inclusive Dates: 1991 to December 2006

Update Frequency: Closed

File Size: More than 144,000 records as of August 2005

## CONTACT

BioEngineering Abstracts is produced by CSA. Questions concerning file content should be directed to:

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## SAMPLE RECORD

DIALOG(R)File 136:BioEngineering Abstracts-1966-2005/Aug  
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**AA=** 0000153699 IP ACCESSION NO: 6256675  
**/TI** Quantum Interference Device Made by DNA Templating of Superconducting Nanowires

**AU=** Hopkins, David S; Pekker, David; Goldbart, Paul M; Bezryadin, Alexey  
**CS=** Department of Physics and Frederick Seitz Materials Research Laboratory, University of Illinois at Urbana-Champaign, Urbana, IL 61801, USA., [mailto:bezryadi@uiuc.edu]

**JN=,PD=,SO=** Science (Washington), v 308, n 5729, p 1762-1765, June 17, 2005  
**PY=** PUBLICATION DATE: 2005

**PU=** PUBLISHER: American Association for the Advancement of Science, 1200 New York Avenue, NW Washington DC 20005 USA, [mailto:membership@aaas.org], [URL:http://www.aaas.org]

**DT=** DOCUMENT TYPE: Journal Article  
**RT=** RECORD TYPE: Abstract  
**LA=** LANGUAGE: English  
**SL=** SUMMARY LANGUAGE: English  
**SN=** ISSN: 0036-8075  
DOI: 10.1126/science.1111307  
**FS=** FILE SEGMENT: BioEngineering Abstracts

**/AB** ABSTRACT:  
The application of single molecules as templates for nanodevices is a promising direction for nanotechnology. We used a pair of suspended DNA molecules as templates for superconducting two-nanowire devices. Because the resulting wires are very thin, comparable to the DNA molecules themselves, they are susceptible to thermal fluctuations typical for one-dimensional superconductors and exhibit a nonzero resistance over a broad temperature range. We observed resistance oscillations in these two-nanowire structures that are different from the usual Little-Parks oscillations. Here, we provide a quantitative explanation for the observed quantum interference phenomenon, which takes into account strong phase gradients created in the leads by the applied magnetic field.

**/DE** DESCRIPTORS: DNA; Oscillations; nanotechnology; Magnetic fields  
**/ID** IDENTIFIERS: superconductors; nanowires  
**SC=,SH=,SH** SUBJ CATG: 130, General Biomedical Engineering: Tools & Techniques

## SEARCH OPTIONS

### BASIC INDEX

SEARCH SUFFIX	DISPLAY CODE	FIELD NAME	INDEXING	SELECT EXAMPLES
—	—	All Basic Index Fields	Word	S BIOLOGICAL(W)DIVERSITY
/AB	AB	Abstract	Word	S NONZERO(W)RESISTANCE/AB
/DE	DE	Descriptor	Word & Phrase	S MAGNETIC(W)FIELDS/DE
/ID	ID	Identifier	Word & Phrase	S SPECIES DIVERSITY/DE
/SH	SH	Section Heading Text <sup>1</sup>	Word	S NANOWIRES/ID
/TI	TI	Title <sup>2</sup>	Word	S TRADITIONAL KNOWLEDGE/ID
			Word	S GENERAL(W)BIOMEDICAL(W)ENG?/SH
			Word	S SUPERCONDUCT?(W)NANOWIRES/TI

<sup>1</sup> Searchable in the Basic Index and in the Additional Indexes

<sup>2</sup> Includes monograph and original titles

### ADDITIONAL INDEXES

SEARCH PREFIX	DISPLAY CODE	FIELD NAME	INDEXING	SELECT EXAMPLES
AA=	AA	CSA Accession Number	Phrase	S AA=6256675
AU=	AU	Author	Phrase	S AU=HOPKINS, DAVID?
—	AZ	DIALOG Accession Number		
BN=	BN	International Standard Book Number (ISBN)	Phrase	S BN=9026513801
—	CC	U.S. Patent Classification		
CP=	CP	Country of Publication	Phrase	S CP=GERMANY
CS=	CS	Corporate Source	Word & Phrase	S CS=(DEPARTMENT(1W)PHYSICS)
			Phrase	S CS=UNIVERSITY OF ILLINOIS?
CT=	CT	Conference Title	Word	S CT=(SYMPOSIUM(W)RESPIRATORY?)
DT=	DT	Document Type	Phrase	S DT=JOURNAL ARTICLE
FS=	FS	File Segment	Phrase	S FS=BIOENGINEERING ABSTRACTS
=	II	Digital Object Identifier		
JN=	JN	Journal Name	Phrase	S JN="SCIENCE (WASHINGTON)"?
LA=	LA	Language	Phrase	S LA=ENGLISH
NO=	NO	Document Number	Word	S NO=CA0200240
—	NT	Note		
PD=	PD	Publication Date	Phrase	S PD=20050617
PU=	PU	Publisher	Word	S PU=(ADVANCEMENT(1W)SCIENCE)
PY=	PY	Publication Year	Phrase	S PY=2005
RT=	RT	Record Type	Phrase	S RT=ABSTRACT
SC=	SC	Section Heading Code	Phrase	S SC=130
SH=	SH	Section Heading	Phrase	S SH=GENERAL BIOMEDICAL ENGINEER?
SL=	SL	Summary Language	Phrase	S SL=ENGLISH
SN=	SN	International Standard Serial Number (ISSN)	Phrase	S SN=0036-8075
				S SN=00368075
SO=	SO	Source Information <sup>3</sup>	Word	S SO=(SCIENCE(W)WASH?)
UD=	—	Update Code	Phrase	S UD=9999

<sup>3</sup> Display includes Journal Name, Volume, Issue Number, Pagination, and Publication Date.

## SPECIAL FEATURES

For command descriptions, enter HELP LIMIT, HELP SORT, HELP RANK, HELP DUP, HELP CURRENT online.

<b>LIMIT</b>	/ABS -- Records with Abstracts /ENG -- English-language Records /NONENG -- Non-English-language Records /YYYY -- Publication Year	S S4/ABS S S5/ENG S S5/NONENG S S6/2004:2005
<b>SORT</b>	AA, AU, CS, JN, PD, PY, TI	SORT S1/ALL/JN,PY PRINT S5/5/1-24/AU
<b>RANK</b>	All phrase- and numeric-indexed fields in the Additional Indexes can be ranked. Other RANK codes include: DE, ID	RANK AU S3
<b>RD, ID</b>	Remove duplicates (RD) or identify duplicates (ID,IDO).	RD S5
<b>CURRENT</b>	Search only the most recent year plus one (CURRENT1) to five (CURRENT5) years.	B 136 CURRENT2

## PREDEFINED FORMAT OPTIONS

NO.	DIALOGWEB FORMAT	RECORD CONTENT
1	--	DIALOG Accession Number
2	--	Full Record except Abstract
3	Medium	Bibliographic Citation
4	--	Full Record with Tagged Fields
5	--	Full Record
6	Short	Title
7	Long	Full Record except Indexing
8	Free	Title and Indexing
9	Full	Full Record
K	--	KWIC (Key Word In Context) displays a window of text; may be used alone or with other formats

## OTHER OUTPUT OPTIONS

For an explanation, enter HELP TYPE, HELP UDF, HELP TAG online.

<b>USER DEFINED FORMATS</b>	User-defined formats can be specified using the display codes indicated in the Search Options tables.	TYPE S3/AU,TI,SO/1-5
<b>TAG</b>	TAG can be used for tagged fields.	TYPE S3/5/1-10 TAG
<b>DIRECT RECORD ACCESS</b>	DIALOG Accession Number	TYPE 0000061710/5 DISPLAY 0000025110/AU,TI,S PRINT 0000154850/9

**FOR ONLINE HELP:**

See HELP FIELDS 136 for searchable fields; HELP FORMAT 136 for output formats; HELP LIMIT 136 for limits; HELP RATES 136 for cost information; HELP SORT 136 for sorts.