

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

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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 ¹ | Word | S NANOWIRES/ID |
| /TI | TI | Title ² | Word | S TRADITIONAL KNOWLEDGE/ID |
| | | | Word | S GENERAL(W)BIOMEDICAL(W)ENG?/SH |
| | | | Word | S SUPERCONDUCT?(W)NANOWIRES/TI |

¹ Searchable in the Basic Index and in the Additional Indexes

² 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 ³ | Word | S SO=(SCIENCE(W)WASH?) |
| UD= | — | Update Code | Phrase | S UD=9999 |

³ 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.

| | | |
|----------------|--|---|
| LIMIT | /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 |
| SORT | AA, AU, CS, JN, PD, PY, TI | SORT S1/ALL/JN,PY PRINT S5/5/1-24/AU |
| RANK | All phrase- and numeric-indexed fields in the Additional Indexes can be ranked. Other RANK codes include: DE, ID | RANK AU S3 |
| RD, ID | Remove duplicates (RD) or identify duplicates (ID,IDO). | RD S5 |
| CURRENT | 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.

| | | |
|-----------------------------|---|---|
| USER DEFINED FORMATS | User-defined formats can be specified using the display codes indicated in the Search Options tables. | TYPE S3/AU,TI,SO/1-5 |
| TAG | TAG can be used for tagged fields. | TYPE S3/5/1-10 TAG |
| DIRECT RECORD ACCESS | 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.