INSPEC

An international database covering: electronics, computing, physics, electrical, manufacturing, mechanical, control and production engineering and information technology.

• **Contents:**

Inspec is the major source of worldwide literature in the fields of physics, electronics and electrical engineering, computers and control, information technology, and manufacturing production and mechanical engineering. Inspec includes the three Science Abstracts print publications: Physics Abstracts, Electrical and Electronics Abstracts, and Computer and Control Abstracts. The Science Abstracts family of journals began publication in 1898. The source material for these records includes scientific and technical journals, conferences, books reports, dissertations, 1968 – 1976, published GB and US patents and other worldwide publications. All information in the database is translated into English. The contents of 3,950 journal titles and some 2,000 published conference proceedings, as well as numerous books, reports and dissertations, are selectively scanned each year by graduate subject specialists on the Inspec staff for relevant documents to abstract and index for the database. Electronic-only publications are also covered from 1996 forward. Open Access sources are included. Up to sixty percent (60%) of the records added to the database include a Digital Object Identifier (DOI).

• **Coverage:**

From 1969

- **Number of documents:** More than 8,000,000 records
- **Language of documents:** English
- **Updating:** Weekly
- **Cluster searching:** The Inspec database is included in the predefined database cluster (FI CL ENGINEER or FI ENGINEER ENGINEER)
- **SDI Profiles:** Weekly

  Monthly
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Sample Record

1/1 INSPEC - (C) INSPEC
AN : 5702327
ABN : B9711-3240C-035
TI : Distributed quasiparticle mixing in a non-linear transmission line at sub-millimeter wavelengths.
AU : Tong CE; Blundell R; Bumble B; Stern JA; LeDuc HG
OS : Harvard-Smithsonian Center for Astrophys.; Cambridge; MA; USA
SO : IEEE Transactions on Applied Superconductivity, vol.7, no.2, pt.3, pp. 3597-3600, June 1997
PU : IEEE
CP : USA
DT : PA (Conference Paper); J (Journal Paper)
LA : English
JC : ITASE9
NU : ISSN 1051-8223
PY : 1997
CONF : 1996 Applied Superconductivity Conference, Pittsburgh, PA, USA, 25-30 Aug. 1996, Sponsored by: Northrop Grumman Sci. & Technol. Center, Westinghouse Sci. & Technol. Center, et al
CPN : 1051-8223/97/ $10.00
SI : 1051-8223(199706)7:2:3L.3597:DQML;1-9
AB : A new class of distributed mixer based on the non-linear quasiparticle tunnel current in a superconductor-insulator-supercond uctor transmission line has been proposed and tested. The Nb/Al/AlOx/Nb junctions used in our mixers are typically 200 nm wide and are between 1 and 2 guided wavelengths long. Compared with the traditional sub-millimeter lumped element quasiparticle mixer, the distributed mixer requires lower critical current densities, lower magnetic field as well as simpler tuning circuitry. Experiments have been performed in various sub-millimeter frequency bands. Receiver noise temperatures of 66 K at 460 GHz, 210 K at 630 GHz and 600 K at 780 GHz have been measured. These noise temperatures are comparable to or slightly better than the noise temperatures of the corresponding lumped element mixers. (13 Ref.)
IT : aluminium; aluminium compounds; circuit tuning; critical current density (superconductivity); niobium; submillimetre wave mixers; superconducting device noise; superconducting device testing; superconductive tunnelling; superconductor-insulator-superconductor mixers
ST : distributed quasiparticle mixing; nonlinear transmission line; sub-millimeter wavelengths; tunnel current; superconductor-insulator-superconductor transmission line; critical current densities; magnetic field; tuning circuitry; receiver noise temperatures; 200 nm; 460 to 780 GHz; Nb-Al-AlO-Nb
TC : AP (Applications); PR (Practical); XP (Experimental)
CC : B3240C Superconducting junction devices; B1250 Modulators, demodulators, discriminators and mixers; B1350F Solid-state microwave circuits and devices
MF : Nb-Al-AlO-Nb/int AlO/int Al/int Nb/int O/int AlO/bin Al/bin O/bin Al/el Nb/el
NM : size 2.0E-07 m; frequency 4.6E+11 to 7.8E+11 Hz
CPR : Copyright 1997, IEE

Searching

Basic Index

Search by	Index	Search Hints	Examples
Terms from the Basic Index	/BI (default)	The Basic Index (title, abstract, indexing) is searchable without specifying a prefix. Search using single terms in English using Boolean and proximity operators. Implicit adjacency is available (search by phrases). Use limited, unlimited and left-hand truncation.	MAGNETIC FIELD SUPERCONDUCTOR AND TRANSMISSION LINE CRITICAL CURRENT DENSITIES MAGNET+ +CONDUCTOR
Title	/TI	Search using single terms or phrases.	/TI LINEAR TRANSMISSION LINE
Abstract	/AB	Search using single terms or phrases.	/AB QUASIPARTICLE AND TUNNEL /AB LINE TRANSMISSION /AB CIRCUIT+
Index Terms	/IW /SW	Search using single terms or phrases (implied adjacency).	/IW BIFURCATION
Index Terms	/IT	Search using complete keyphrases. The /IT index searches the ST and IT fields simultaneously. Where the word AND is a keyword, use quote marks, e.g. “AND”	/IT ALUMINIUM /IT ALUMINIUM COMPOUNDS
Supplementary Terms	/ST	Inspec Controlled Indexing Search using keyphrases.	/ST TUNNEL CURRENT

The Inspec Thesaurus, Inspec Classification and Inspec List of Journals are available individually in hardcopy, as XML files, or together electronically in the Inspec Search Aids CD-Rom (Stand-Alone or Network version) from Inspec/The Institution of Engineering and Technology.

Search by	Index	Search Hints	Examples
Accession Number	/AN (or /NO)	Search by the accession number in the format: XXXXXXX	/AN 5702327
Abstract Number	/ABN	The Abstract Number corresponds to the location of the record within the printed abstract journal. Search by the abstract number. This number begins with the subject code followed by two digits of the year.	/ABN B9711-3240C-035
File Section	/FS	Search by the relevant code: A - Physics B - Electrical Engineering & Electronics C - Computers & Control D - Information Technology (from 1983) E – Mechanical & Production Engineering	A /FS /FS C OR D
Author	/AU	The author index, /AU includes the names of authors, editors and translators. Search by surname followed by initials or by surname only. Using the NBR /AUN command, you can select items from a list. With the MEM and MEMS commands, use the /AUN index. To limit your search to editors and translators, use the /ED index.	/AU BUMBLE B /AU TONG
Organizational Source	/OS (or /AF)	Search using single terms with Boolean or proximity operators. Implicit adjacency is available (search by phrases). Use limited or unlimited truncation.	/OS HARVARD 3W ASTROPHYS
Source	/SO	Search using single terms and Boolean or proximity operators. Implicit adjacency is available (search by phrases). Use limited or unlimited truncation. The journal name, volume and page numbers are included.	/SO IEEE TRANSACTION? /SO IEEE AND SUPERCONDUCTIVITY
Publishers	/PU	Search using single terms or phrases.	/PU IEEE /PU AXON TECHNOLOGIE
Publication Country	/CP	Search using single terms or phrases. Note: Some countries are only indexed by their acronym (USA, UK...)	/CP USA /CP SOUTH KOREA

Search by	Index	Search Hints	Examples
Type of Document	/DT	Search by single terms, phrases or by code: J Journal Paper B Book CH Book Chapter C Conference Proceedings P Patent PA Conference Paper T Thesis or Dissertation R Report RS Report Section	/DT JOURNAL PAPER /DT PA /DT P
Publication Language	/LA	Search using the English spelling of the language. To find non English language documents, use the code: XE/LA. To see a list of languages, use NBR /LA	/LA ENGLISH
CODEN	/JC	Search using the six character CODEN.	/JC ITASE9
ISSN and ISBN Numbers	/NU	To search for ISSN and ISBN numbers, with or without prefix, search using the format: ISSN XXXX-XXXX or XXXX-XXXX or ISBN XXXXXXXXXX or XXXXXXXXXX You can also search using report or patent numbers.	/NU ISSN 1051-8223 /NU ISBN 0003831892 /NU AAR109
Publication Year	/PY (or /DP)	Search the full year (XXXX) or the last two digits (XX). Use numeric operators.	PY>=1997 PY=96
Conference Details	/CONF	Search on the title of the conference, the location, date or sponsor name. Implied adjacency is available.	/CONF SUPERCONDUCTIVITY CONFERENCE /CONF 1996
Availability of Original Document	/AV	Search by the name, the NTIS (National Technical Information Service) identification number, the price or media type.	/AV ACADEMIC PRESS /AV NTIS
Internet Address of the Publication	/URL	Search using single terms from the URL address.	/URL WWW FIRSTMONDAY

Search by	Index	Search Hints	Examples
Treatment Code	/TC	Search using single terms, phrases or by code: AP Application LS Literature Survey EC Economic/Commercial GR General/Review ND New Developments PR Practical TM Theoretical/Mathematical EX Experimental RP Product Review (Available from 1971.)	/TC AP /TC NEW DEVELOPMENTS /TC AP OR PR
Classification Code	/CC	Search either - by code in the format: ANNNNA or A or AN or ANN or ANNNN A = a letter N = a number or by text Implied adjacency is available	/CC B3240C /CC B32 /CC SUPERCONDUCTIVITY JUNCTION DEVICES
Astronomic Object	/AO	Search using single terms from the astral co-ordinates. Available from 1995 forward.	/AO ARP /AO NGC 2685
Material Formula	/MF	Search using chemical formula in the format: EEE/RRR EEE = chemical symbols RRR = role played by the compound or component. Use the S operator to search for 2 or more components in the same compound or system. Roles: EL Element DOP Dopant BIN Binary system INT Interface system SS System with three or more components SUR Surface or substrate ADS Adsorbate Available from 1987 forward.	/MF ALO/INT /MF O/BIN /MF ALO/INT S ALO/BIN
Numeric Indexes	/NM	Search by: - the property in full, - the property as a code, - the unit of measurement in abridged form. Available from 1987 forward.	/NM FREQUENCY /NM FREQ /NM Hz

To search by value, use the field corresponding to the property to be searched.

Search Examples :

1) Search a single value

accurate value	/size 1.0E03 /tim 6.9E06	
value without decimal point	/size 1+E03 /volt -8+E-01	or /size 1+ /rada 3.26+
exponent value only	/size E03 /volt E-03 /volt E01	

2) Interval Searching

accurate value	/size 9.0E-10 S 5.2E-11
value without decimal point	/size 9+E-10 S 5+E-11 /tim 6+E07 S 7+E07
exponent value only	/size E-10 S E-11

Index Examples:

Frequency of 60 Hz	Frequency 6.0E01 Hz
Range of 20 to 40 KHz	Frequency 2.0E04 to 4.0E04 Hz
Voltage of 500 volts	Voltage 5.0E02 V
Age of 30 000 years	Age 3.0E04Yr
Temperature of 0 to 100°C	Temperature 2.73E02 to 3.73E02 K
Resistance of 50 Ohm	5.0E01 Ohm
Wavelength of 1000 M	Wavelength 1.0E03 M

Numeric Data Fields

Field/Code	Property Unit of Measurement
AGE	Age Year (Yr)
ALT	Altitude Metre (m)
APOW	Apparent Power Volt-Amps (VA)
BAND	Bandwidth Hertz (Hz)
BIT	Bit rate Bit per second (bit/s)
BYT	Byte rate Byte per Second (Bytes/s)
CAP	Capacitance Farad (F)
CER	Computer Execution Rate Instructions per second (IPS)
COND	Conductance Siemen (S)
CSP	Computer Speed Floating Point Generation per Second (FLOPS)
CUR	Current Amp (A)
DEP	Depth Metre (m)
DIST	Distance Metre (m)
EFFI	Efficiency Percent (%)
ECON	Electrical conductivity Siemen per metre (S/m)
ERES	Resistivity Ohm metre (Ohmm)
EVOL	Electron volt energy Electron Volt (eV)
ENER	Energy Joule (J)
FREQ	Frequency Hertz (Hz)
GAIN	Gain Decibel (dB)
GALD	Galactic Distance Parsec (pc)
GEOD	Geocentric distance Metre (m)
HELD	Heliocentric distance Astronomical unit (AU)
LOSS	Loss Decibel (dB)
MAGD	Magnetic flux density Tesla (T)
MASS	Mass Kilogram (kg)
MES	Memory size Byte (byte)
NOIS	Noise figure Decibel (dB)
PIX	Picture Size Picture element (pixel)
POWR	Power Watt (W)
PRES	Pressure Pascal (Pa)
PRNT	Printer Speed Character per second (cps)
RADA	Radiation absorbed dose Gray (Gy)
RADE	Radiation dose equivalent Sievert (Sv)
RADX	Radiation exposure Coulomb per kilogram (C/kg)
RAD	Radioactivity Becquerel (Bq)
REAC	Reactive Power Volt-amp reactive (VAr)
RES	Resistance Ohm (Ohm)
SIZE	Size Metre (m)
STEL	Stellar Mass Solar mass (Msol)
STOR	Storage Capacity Bit (Bit)
TEMP	Temperature Kelvin (K)
TIM	Time Second (S)
VEL	Velocity Metres per second (m/s)
VOLT	Voltage Volt (V)
WAVE	Wave length Metre (m)
WORD	Word length Bit (Bit)

Display Formats

File formats:

TEST	AN	ABN	TI	CC	IT	ST	TC	AO	MF	NM
STDR	AN	ABN	TI	AU	ED	OS	SO	PU	CP	LA
CONF										
MAX	AN	ABN	TI	AU	ED	OS	SO	PU	CP	DT	LA
		JC	NU	PY	CONF	AV	CPN	SI	DOI	DN	
URL	AB	IT	ST	TC	CC	AO	MF	NM	CPR		
PHYP	NM	AGE	ALT	APOW	BAND	BIT	BYT	CAP	CER	COND	
	CSP	CUR	DEP	DIST	EFFI	ECON	ERES	EVOL	ENER	FREQ	
		GAIN	GALD	GEOD	HELD	LOSS	MAGD	MASS	MES	NOIS	
		PIX	POWR	PRES	PRNT	RADA	RADE	RADX	RAD	REAC	
		RES	SIZE	STEL	STOR	TEMP	TIM	VEL	VOLT	WAVE	
		WORD									
ABST	AN	ABN	TI	AB						
BIB	AN	ABN	TI	AU	ED	OS	SO	PU	CP	LA	
CDOC	AN	ABN	TI	AU	SO	LA	DT	PY			
FULL	AN	ABN	TI	AU	ED	OS	SO	PU	CP	DT	
	LA	JC	NU	PY	CONF	AV	CPN	SI	DOI	DN	
	URL	AB	IT	ST	TC	CC	AO	MF	NM	CPR	
FU	AN	ABN	TI	AU	ED	OS	SO	PU	CP	DT	
	LA	JC	NU	PY	CONF	AV	CPN	SI	DOI	DN	
	URL	AB	IT	ST	TC	CC	AO	MF	NM	CPR	

List of Fields

All these fields may be used with the.LI, BR and =YES commands

AB	Abstract
ABN	Abstract Number
AN	Accession Number
AO	Astronomic Object
AU	Author
AV	Availability of Original Document
CC	Classification Code
CONF	Conference Details
CP	Publication Country
CPN*	Copyright Number
CPR*	Copyright
DN*	Document Number
DT	Type of Document
ED	Editor
FS	File Segment
IT	Index Term
JC	Journal Code
LA	Publication Language
MF	Material Formula
NM	Numeric Indexes
NU	Numbers
OS	Organizational Source
PU	Publishers
PY	Publication Year
SI*	SICI
SO	Document Source
ST	Supplementary Terms
TC	Treatment Code
TI	Title
URL	Internet Address