THOMSON REUTERS

2, 3, 4, 202

INSPEC
ONTAP® INSPEC (FILE 213)

FILE DESCRIPTION

Inspec (The Database for Physics, Electronics and Computing) includes the three Science Abstracts print abstract journal publications: *Physics Abstracts*, *Electrical and Electronics Abstracts*, and *Computer and Control Abstracts*, which began publication in 1898, and two other technology areas: Information Technology for Business, Manufacturing, & Production and Mechanical Engineering. Approximately 10% of the database's source publications are in languages other than English, but all articles are abstracted and indexed in English. Author-prepared abstracts are used when available.

Inspec uses controlled vocabulary from the *Inspec Thesaurus*. DIALOG's online thesaurus feature is available to assist searchers in determining appropriate subject terms and codes. Beginning in January 1987, Inspec records also include chemical substance indexing and numerical index terms. Beginning in January 1995, Inspec records also included astronomical object indexing terms.

As of March 2005, more than 3,800 journals and serials are scanned of which 750 are abstracted cover-to-cover. These contribute 78% of the database. Other source materials include conference papers and proceedings, books, reports, and dissertations. The database also includes 20,586 U.S. and U.K. patents published between 1968 and 1976.

SUBJECT COVERAGE

The principal subject areas within each subfile are:

Physics (Subfile A)
Acoustics, Astronomy and Astrophysics, Atomic and Molecular Physics, Biophysics and Medical Physics, Elementary Particle Physics, Energy Research, Environmental Science, Gases, Fluid Dynamics and Plasmas, Geophysics, Instrumentation and Measurement, Materials Science, Mathematics and Mathematical Physics, Nuclear Physics, Optics (including Lasers), Physical Chemistry, Properties of Matter, Quantum Mechanics, Thermodynamics

Elec. Engineering & Electronics (Subfile B)
Circuits and Components, Electricity Generation and Supply, Electromagnetic Fields and Waves, Electronic Devices and Materials, Electronic Instrumentation, Optics and Electro-optics, Power Systems and Applications, Radar and Radionavigation, Telecommunications

Computers & Control (Subfile C)
Computational Mathematics, Computer Applications, Computer Hardware, Computer Software, Control Applications, Control Systems, Information Science, Systems and Control Theory

Information Technology (Subfile D)
Business and Financial Applications, Communications, Computing and Systems, Engineering and Industry Applications, Management, Office Automation. Not in File 202.

Mechanical and Production Engineering (Subfile E)
Design, Engineering Mechanics, Production Technology, Measurement and Testing, Manufacturing Resources and Products, Materials Handling and Distribution, Industrial Sectors. Not in File 202.

TIPS

USE EXPLODE (!)
to search narrower and related terms:
S OPTICAL FIBRES!

USE THE ONLINE THESAURUS
to check and select the thesaurus terms:
EXPAND (SOLID LASERS)

USE RANK
to find additional descriptors:
SELECT OPTICAL PUMPING
RANK DE

USE LIMITS
/PHYS for Physics Subfile
/TECH for Electronics, Computing, Information Technology, Manufacturing, Production and Mechanical Engineering Subfiles.

DIALOG FILE DATA

Inclusive Dates: 1898 - present (File 2)
1969 - present (File 3)
1983 - present (File 4)
1898 - 1968 (File 202)

Update Frequency: Closed (Files 202,213)
Weekly (Files 2,3,4)

File Size:
More than 9,000,000 records as of October 2005 (File 2)
More than 8,500,000 records as of Oct 2005 (File 3)
More than 6,500,000 records as of Oct 2005 (File 4)
873,700 records (File 202)
37,667 records (File 213)

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DIALOG(R)File 2:INSPEC

AZ= 09811810
/TI Title: Generation of a continuum extending to the midinfrared by pumping ZBLAN fiber with an ultrafast 1550-nm source
AU= Author(s): Hagen, C.L.; Walewski, J.W.; Sanders, S.T.
CS= Author Affiliation: Univ. of Wisconsin-Madison, Madison, WI, USA
JN=,SO= Journal: IEEE Photonics Technology Letters vol.18, no.1 p.91-3
PU= Publisher: IEEE
PY=,CP= Publication Date: Jan. 2006 Country of Publication: USA

CO=,SN= CODEN: IPTLEL ISSN: 1041-1135
IC= SICI: 1041-1135(200601)18:1L.91:GCEM;1-3
Material Identity Number: M857-2006-001
U.S. Copyright Clearance Center Code: 1041-1135/$20.00
LA=,DT= Language: English Document Type: Journal Paper (JP)
TC= Treatment: Experimental (X)
/AB Abstract: Pulses from a commercial erbium-doped fiber laser are coupled into a standard silica fiber and a standard fluoride fiber connected in series. By cascaded Raman soliton self-shifting, a continuum extending to a wavelength of ~3 mu m is generated. The total average power emitted in the 1.8-3.4- mu m range is 5 mW. Throughout the 1.4-2.9- mu m range, the average spectral power is ~4 mu W/nm and higher, corresponding at 2.9 mu m to a spectral radiance approximately 4600 times that of a 3000 K blackbody. (18 Refs)
SF= Subfile: A B
/DE Descriptors: aluminium compounds; barium compounds; erbium; high-speed optical techniques; infrared sources; lanthanum compounds; optical fibre amplifiers; optical pumping; optical solitons; Raman spectra; red shift; silicon compounds; sodium compounds; supercontinuum generation; zirconium compounds
/ID Identifiers: continuum generation; midinfrared spectrum; ZBLAN fiber pumping; ultrafast source; erbium-doped fiber laser; standard silica fiber; standard fluoride fiber; cascaded Raman soliton self-shifting; spectral radiance; blackbody; infrared supercontinuum emitters; 1550 nm; 1.4 to 3.4 mum; 5 mW; 3000 K; ZBLAN; SiO/sub 2/:Er; ZrF4-BaF2-LaF3-AlF3-NaF
CC= Class Codes: A4255N (Fibre lasers and amplifiers); A4260B (Design of specific laser systems); A4260F (Laser beam modulation, pulsing and switching; mode locking and tuning); A4280W (Ultrafast optical techniques); A4265S (Optical solitons); B4320F (Fibre lasers and amplifiers); B4330B (Laser beam modulation, pulsing and switching; mode locking and tuning); B4340S (Optical solitons)
CI= Chemical Indexing:
ZrF4BaF2LaF3AlF3NaF ss - Al ss - Ba ss - F2 ss - F3 ss - F4 ss - La ss - Na ss - Zr ss - F ss (Elements - 6)
SiO2:Er ss - SiO2 ss - Er ss - O2 ss - Si ss - O ss - SiO2 bin - O2 bin - Si bin - O bin - Er el - Er dop (Elements - 2,1,3)
NI=,WA= Numerical Indexing: wavelength 1.55E-06 m; wavelength 1.4E-06 to 3.4E-06
PO= m; power 5.0E-03 W; temperature 3.0E+03 K

SEARCH OPTIONS

BASIC INDEX

SEARCH SUFFIX	DISPLAY CODE	FIELD NAME	INDEXING	SELECT EXAMPLES
—	—	All Basic Index Fields	Word	S THRESHOLD(W)CURRENT
/AB	AB	Abstract[1]	Word	S FIBER(W)LASER/AB
/DE	DE	Descriptor[2]	Word & Phrase	S RAMAN(W)SPECTRA/DE S OPTICAL PUMPING/DE
/ID	ID	Identifier[3,4]	Word & Phrase	S BLACKBODY/ID S SPECTRAL RADIANCE/ID
/NT	NT	Note	Word	S ABSTRACT(W)NO(W)1898A01300/NT
/TI	TI	Title	Word	S GENERATION(2W)CONTINUUM(S)ZBLAN/TI

[1] Abstracts are present for 90% of older records, and for 100% of recent records.

[2] Also /DF.

[3] Also /IF.

[4] Includes Inspec Astronomical Object Indexing.

ADDITIONAL INDEXES

SEARCH PREFIX	DISPLAY CODE	FIELD NAME	INDEXING	SELECT EXAMPLES
AC=	AC	Patent Application Country[5]	Word	S AC=JP
AD=	AD	Patent Application Date[5]	Phrase	S AD=19710402
AN=	AN	Patent Application Number[5]	Phrase	S AN=20162
AU=	AU	Author	Phrase	S AU=HAGEN, C.L.
AV=	AV	Availability[15]	Word	S AV=(LASER(W)INSTITUTE)
—	AZ	DIALOG Accession Number		
AZ=	AZ	Inspec Abstract Number	Phrase	S AZ=A90052690
BN=	BN	International Standard Book Number (ISBN)[9,15]	Phrase	S BN=0818619864
CC=	CC	Classification Code	Phrase	S CC=A4255N
CL=	CL	Conference Location[6]	Word	S CL=(SANTA(W)CLARA)
CN=	CN	Classification Name	Word & Phrase	S CN=(FIBRE(W)LASERS(1W)AMPLIFIERS) S CN=ULTRAFAST OPTICAL TECHNIQUES
CO=	CO	CODEN[15]	Phrase	S CO=IPTLEL
CP=	CP	Country of Publication	Word & Phrase	S CP=USA S CP=GERMANY
CS=	CS	Corporate Source	Word	S CS=(UNIV(1W)WISCONSIN(S)MADISON)
CT=	CT	Conference Title[6]	Word	S CT=(COMPUTER(W)AIDED(W)DESIGN)
CY=	CY	Conference Year[6]	Phrase	S CY=1990
DN=	DN	Document Number[15]	Phrase	S DN=S0042-6989(05)00493-1
DT=	DT	Document Type[7]	Phrase	S DT=JOURNAL PAPER
IC=	IC	ANSI Z39.56 Serial Item Contribution Identifier (SICI) Code[15]	Phrase	S IC="1041-1135(200601)18:1L.91:GCEM 1-3"
—	II	Digital Object Identifier[15]		
JN=	JN	Journal Name[8]	Phrase	S JN=IEEE PHOTONICS TECHNOLOGY LETTERS
LA=	LA	Language	Phrase	S LA=ENGLISH
NI=	NI	Numeric Information	Phrase	S NI=WAVELENGTH
PA=	PA	Patent Assignee[5]	Word & Phrase	S PA=(PIONEER(W)ELECTRONIC) S PA=PIONEER ELECTRONIC?
PC=	PC	Patent Country[5]	Word	S PC=GB
PD=	PD	Patent Date[5]	Phrase	S PD=20040000
PN=	PN	Patent Number[5]	Phrase	S PN=GB 24,904
PU=	PU	Publisher[9]	Word	S PU=(IEEE AND PISCATAWAY)
PY=	PY	Publication Year	Phrase	S PY=2006
RN=	RN	Report or Contract Number	Word & Phrase	S RN=(CERN(W)SPS) S RN="CERN/SPS/ACC/79-13"
SF=	SF	Subfile	Phrase	S SF=A
SN=	SN	International Standard Serial Number (ISSN)[15]	Phrase	S SN=1041-1135
SO=	SO	Source Information[10]	Word	S SO=(IEEE(F)LETTERS AND USA)
SP=	SP	Conference Sponsor[6]	Word	S SP=(IEEE(W)COMPUT(S)SOFTWARE)
TC=	TC	Treatment Code[7,15]	Phrase	S TC=EXPERIMENTAL
UD=	—	Update	Phrase	S UD=9999
UR=	UR	Uniform Resource Locator (URL)[12,15]	Phrase	S UR="HTTP//ENGINE.IEEE"?
CHEMICAL INDEXING FIELDS (available since January 1987)				
CI=	CI	Substance (including role modifier)[13]	Word & Phrase	S CI=GAAS S CI=(GA(S)AS(S)INT)
NE=	NE	Number of elements in Substance, Component, or Material System	Phrase	S NE=3(S)CI=(GA(S)AL(S)AS)
NUMERICAL INDEXING FIELDS (available since January 1987)[12,13]				
HI=	NI	Highest Value	Numeric	S HI=2.5E4(S)NI=FREQUENCY S HI<=9.7E-7(S)NI=WAVELENGTH
LO=	NI	Lowest Value	Numeric	S LO=100(S)NI=TEMPERATURE S LO>=3.16E7(S)NI=AGE

ADDITIONAL INDEXES (cont'd)

SEARCH PREFIX	DISPLAY CODE	FIELD NAME	INDEXING	SELECT EXAMPLES
NUMERICAL INDEXING FIELDS (available since January 1987)[14]				
AG=	NI	Age (yr; Year)	Numeric	S AG>=1E9
AL=	NI	Altitude (m; Meter)	Numeric	S AL=2E4:9E5
AP=	NI	Apparent Power (VA; Volt-amp)	Numeric	S AP=3E6
BI=	NI	Bit Rate (Bit/s; Bits per Second)	Numeric	S BI=64000
BW=	NI	Bandwidth (Hz; Hertz)	Numeric	S BW=5E7
BY=	NI	Byte Rate (Byte/s; Bytes per Second)	Numeric	S BY=2.5E6
CA=	NI	Capacitance (F; Farad)	Numeric	S CA=2E-13
CD=	NI	Conductance (S; Seimen)	Numeric	S CD=2:5
CE=	NI	Computer Execution Rate (IPS; Instructions per Second)	Numeric	S CE>=1E6
CM=	NI	Computer Speed (FLOPS)	Numeric	S CM>=3.5E6
CU=	NI	Current (A; Ampere)	Numeric	S CU=0.051
DI=	NI	Distance (m; Meter)	Numeric	S DI=0.002
DP=	NI	Depth (m; Meter)	Numeric	S DP=2E4:9E5
EF=	NI	Efficiency (Percent)	Numeric	S EF=60
EL=	NI	Electrical Conductivity (S/m; Siemen per Meter)	Numeric	S EL=7.0E4
EN=	NI	Energy (J; Joule)	Numeric	S EN=0.5
ER=	NI	Electrical Resistivity (ohmm; Ohm meter)	Numeric	S ER=1.7E-4 S ER=0.00017
EV=	NI	Electron Volt Energy (eV; Electron Volt)	Numeric	S EV=-0.5:0
FR=	NI	Frequency (Hz; Hertz)	Numeric	S FR=0:1
GA=	NI	Gain (dB; Decibel)	Numeric	S GA=14
GD=	NI	Galactic Distance (pc; Parsec)	Numeric	S GD>=1E7
GE=	NI	Geocentric Distance (m; Meter)	Numeric	S GE=>3.7E10
HD=	NI	Heliocentric Distance (AU; Astronomical Unit)	Numeric	S HD=5E4
LS=	NI	Loss (dB; Decibel)	Numeric	S LS=-60:0
MA=	NI	Mass (kg; Kilogram)	Numeric	S MA=6E14
MD=	NI	Magnetic Flux Density (T; Tesla)	Numeric	S MD=1E-2
MS=	NI	Memory Size (Byte)	Numeric	S MS>=3E7
NF=	NI	Noise Figure (dB; Decibel)	Numeric	S NF=1:2
PO=	NI	Power (W; Watt)	Numeric	S PO=4E-5:2E-4
PR=	NI	Pressure (Pa; Pascal)	Numeric	S PR=1.3E-3
PS=	NI	Printer Speed (cps; Characters per Second)	Numeric	S PS>=2E2
PX=	NI	Picture Size (pixel; Picture Element)	Numeric	S PX=512
RA=	NI	Radiation Absorbed Dose (Gy; Gray)	Numeric	S RA=2
RD=	NI	Radiation Dose Equivalent (Sv; Sievert)	Numeric	S RD=1E-6:1E-2
RE=	NI	Resistance (ohm)	Numeric	S RE=7E-5:0.1
RP=	NI	Reactive Power (VAr; Volt-Amp Reactive)	Numeric	S RP=1E5
RX=	NI	Radiation Exposure (C/kg; Coulomb per Kilogram)	Numeric	S RX<=0.1
RY=	NI	Radioactivity (Bq; Becquerel)	Numeric	S RY=1E8:1E12
SI=	NI	Size (m; Meter)	Numeric	S SI=0.7:15
SM=	NI	Stellar Mass (Msol; Solar Mass)	Numeric	S SM=1E-2:3000
SR=	NI	Storage Capacity (Bit)	Numeric	S SR=4.2E6
TE=	NI	Temperature (K; Kelvin)	Numeric	S TE=3.26E2
TM=	NI	Time (s; Second)	Numeric	S TM=2E-11:4E-11
VE=	NI	Velocity (m/s; Meters per Second)	Numeric	S VE=-5E4:-2E2
VO=	NI	Voltage (V; Volt)	Numeric	S VO>=1000
WA=	NI	Wavelength (m; Meter)	Numeric	S WA=8.8E-7:1E-1
WL=	NI	Word Length (Bit)	Numeric	S WL=32

[5] Files 2 & 3 only; dates of patent coverage: 1969-1976. Patent Information can be displayed using PI code.

[6] Conference Information can be displayed using CF code, e.g., T S2/CF/3.

[7] Searchable by text or by code.

[8] Searchable as the full name and as the abbreviated name, displayable as the full name.

[9] Available for conference proceedings, books, and dissertations.

[10] Search and display varies depending on document type.

[11] Not available in File 213.

[12] Beginning 1995.

[13] Role modifiers include: EL (element), DOP (dopant), BIN (binary system) SS (system with 3 or more components), INT (interface system), SUR (surface or substrate), ADS (adsorbate, or any sorbate).

[14] Numeric data for each physical quantity are indexed into a separate numeric field (TE=, PR=, FR=, etc.). In the record display, numeric values appear in an exponential or floating point format, e.g., FR=2.5E04. Each physical quantity and its corresponding abbreviated unit of measure are optionally searchable using NI=.Truncation is not allowed when searching numeric data; range searching is recommended, e.g., S FR=25000:30000. The smallest and largest numbers that may be searched are 5.4E-79 and 7.2E+75. Use the LO= and HI= search prefixes to specify precise minimum or maximum numeic values. LO= and HI= are generic prefixes not specific to any physical quantity. Searches using LO= & HI= should be qualified with the addition of the desired physical quantity using the NI= prefix.

[15] Not available in File 202.

SPECIAL FEATURES

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

LIMIT	/**ART** -- Journal Article /**ENG** -- English Language /**NAR** -- Non-Journal Article /**NONENG** -- Non-English Language /**PHYS** -- Physics Subfile /**TECH** -- Electronics, Computing, and Information Technology Subfiles /**YYYY** -- Publication Year	S S2/ART S S9/ENG S AMPLIFIER?/NAR S LASERS/NONENG S SEMICONDUCTOR?/PHYS S HOLOGRAPHY/TECH S SUPERCONDUCTOR?/2005:2006
SORT	**AU, AZ, CC, CS, JN, PY, TI**	SORT S3/ALL/JN/D SORT S4/ALL/AU
RANK	All phrase- and numeric-indexed fields in the Additional Indexes can be ranked. Other RANK codes include: DE, ID	RANK ID S2 RANK AU S1
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 2 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[1]
5	--	Full Record[1]
6	Short	Title and Publication Date
7	Long	Full Record except Indexing[1]
8	Free	Title, Indexing, and Publication Date
9	Full	Full Record[1]
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	Display codes listed in the Search Options table can be used to customize output.	TYPE S3/AU,TI,SO/1-5 TYPE S2/TI, AB/ALL
TAG	Output can be displayed with tags identifying each display field.	TYPE S2/9/1-5 TAG
DIRECT RECORD ACCESS	If the accession number of a specific record is known, it can be used to display the record directly.	TYPE 9581561/5 DISPLAY 9574895/5 PRINT 4764942/3

FOR ONLINE HELP:

See HELP FIELDS 2 for searchable fields; HELP FORMAT 2 for output formats; HELP LIMIT 2 for limits; HELP RATES 2 for cost information; HELP SORT 2 for sorts.