# INSPEC

## Subject Coverage

- Atomic and molecular physics
- Circuit theory and circuits
- Classical areas of phenomenology
- Communications
- Components, electronic devices and materials
- Computer applications
- Computer hardware and software
- Condensed matter: structure, mechanical properties, electronic structures, electrical, magnetic, and optical properties
- Control technology
- Cross-disciplinary physics and related areas of science and technology
- Electromagnetic fields
- Engineering mathematics, materials science
- Fluids, plasmas, electric discharges
- General and management aspects and applications
- Geophysics, astronomy, astrophysics
- Information technology
- Instrumentation and special applications
- Magnetic and superconducting materials and devices
- Mechanical engineering
- Nuclear physics
- Numerical analysis and theoretical computer topics
- Office automation - communications, computing
- Optical materials and applications, electro-optics and optoelectronics
- Physics of elementary particles and fields
- Power systems and applications
- System and control theory

## File Type

Bibliographic

## Features

| | | | |
|---|---|---|---|
| Thesaurus | Controlled Term (/CT), International Patent Classification (/IPC), | | |
| Alerts (SDIs) | Weekly | | |
| CAS Registry Number® Identifiers | ☐ | | |
| Keep & Share | ☑ | SLART | ☑ |
| Learning Database | ☐ | Structures | ☐ |

## Record Content

- Bibliographic information, indexing terms, abstracts and International Patent Classification, where applicable.
- INSPEC also includes an archive from 1898-1968. This archive provides access to Science Abstracts Journals from 1898-1968, and contains over 873,700 records with the original value-added indexing and classifications, as well as enhancements in the form of the nearest equivalent current INSPEC Thesaurus terms and INSPEC Classification Codes.
- IPC codes are available from 2010 onwards.
- There are more than 2.9 million citations mostly from 2010 onwards, with about 300 thousand added each year.

## File Size

More than 24.5 million records (10/2023)

| | |
|---|---|
| **Coverage** | 1898-present |
| **Updates** | Weekly |
| **Language** | English |
| **Database Producer** | The Institution of Engineering and Technology (IET)<br>Futures Place<br>Kings Way<br>Stevenage,<br>Hertfordshire<br>SG1 2UA<br>United Kingdom<br>Phone: +44 1438 765-575<br>Email: emea.sales@theiet.org<br><br>Copyright Holder<br>The Institution of Engineering and Technology is registered as a Charity in England & Wales (no 211014) and Scotland (no SC038698). |
| **Sources** | • Journals<br>• Reports<br>• Conferences<br>• Books<br>• Dissertations<br>• Patents (until 1976) |
| **User Aids** | • Inspec List of Journals *<br>• Inspec Classification *<br>• Inspec Thesaurus *<br>• IPC Codes Applied in Inspec Records https://www.theiet.org/media/11146/ipc-patent-codes.pdf<br>• Online Helps (HELP DIRECTORY lists all help messages available)<br>• STNGUIDE<br><br>* Available printed at producer and online |

**Cluster**

- AEROTECH
- ALLBIB
- AUTHORS
- CHEMENG
- CHEMISTRY
- COMPUTER
- CORPSOURCE
- ELECTRICAL
- ENGINEERING
- ENVIRONMENT
- FUELS
- GEOSCIENCE
- GOVREGS
- MATERIALS
- MEETINGS
- METALS
- NPS
- PETROLEUM
- PHYSICS
- SAFETY

STN Database Cluster information:
https://www.cas.org/support/training/stn/database-clusters

# Search and Display Field Codes

Fields that allow left truncation are indicated by an asterisk (*).

## General Search Fields

| Search Field Name | Search Code | Search Examples | Display Codes |
|---|---|---|---|
| Basic Index* (contains single words from abstract (AB), controlled term (CT), supplementary term (ST), controlled term original (CTO), and title (TI) fields) | None or /BI | S MICROELECTRON?<br>S QUANTUM HALL<br>S LIQUID(A)CRYST?<br>S AL203-NA20<br>S ?LASER? | AB, CT, CTO, ST, TI |
| Abstract* | /AB | S NEUTRON ?RADIATION?/AB | AB |
| Accession Number | /AN | S 1990:3615482/AN | AN |
| Application Date **(1)** | /AD | S AD = APR 1969 | AI |
| Application Year **(1)** | /AY | S AY = 1970 | AI |
| Astronomical Object | /AO | S WESTERBORK-19 32/AO<br>S 1101+38/AO | AO |
| Author | /AU | S SMITH S/AU<br>S SMITH, S/AU | AU |
| Availability **(2)** | /AV | S NASA CENTER/AV | AV |
| Chemical Indexing | /CHI (or /MAI) | S BA DOP/CHI<br>S CU SS/CHI<br>S SS304 BIN/CHI | CHI |
| Classification Code (contains INSPEC classification) | /CC | S A9110Q/CC<br>S A4/CC<br>S A41/CC<br>S OPTICAL DEVICE?/CC | CC |
| Classification Code, Original **(2)** | /CCO | S MATHEMATICAL PHYSICS/CCO<br>S 621.791/CCO | CCO |
| Controlled Term **(4)** | /CT | S MAGNETIC LEVITATION/CT | CT |
| Controlled Term, Original **(2)** | /CTO | S "MANGANESE BISMUTHIDE"/CTO | CTO |
| Controlled Word | /CW | S MAGNETIC/CW | CT, CTO |
| Corporate Source (incl. affiliation, patent assignee) | /CS | S (NAT(W)BUR?(2W)WASH?)/CS<br>S GAIN ELECTRON?/CS | CS |
| Corporate Source Identifier (Ringgold Identifier (RIN)) | /CSID | S 120034/CSID | CSID |
| Country of Publication | /CY | S GERMANY/CY | CY |
| Digital Object Identifier | /FTDOI | S HTTPS://DOI.ORG/10.0002/ER.802/FTDOI | FTDOI |
| Document Number | /DN | S 23562477 /DN | DN |
| Document Type (code and text) | /DT (or /TC) | S Book/DT<br>S GENERAL REVIEW/DT | DT |
| E-mail Address **(3)** | /EML | S HEIDEL IBM/EML | AU, EML |
| Entry Date **(1)** | /ED | S ED>JAN 2023 | ED |
| File Segment | /FS | S B/FS AND SAFETY | FS |
| International Patent Classification **(2,4)** | /IPC | S B82B0001-00/IPC | IPC |
| International Standard (Document) Number (contains ISSN, ISBN, and CODEN) **(2)** | /ISN | S 1220-3033/ISN<br>S 1-88044-651-0/ISN<br>S AABNAC/ISN | SO, ISN |
| Journal Title (contains full and abbreviated titles) | /JT | S CREATIVE COMPUT?/JT | JT, JTA, JTF, SO |
| Language (ISO code and text) | /LA | S GERMAN/LA<br>S RU/LA | LA |
| Meeting Date **(1)** | /MD | S 15 DEC 1999/MD | MD, SO |
| Meeting Location **(3)** | /ML | S NANTES/ML | ML, SO |
| Meeting Title **(3)** | /MT | S ACADEMIC CONFERENCE | MT, SO |
| Meeting Year **(1)** | /MY | S 1983-1984/MY | MY, SO |

# General Search Fields (cont'd)

| Search Field Name | Search Code | Search Examples | Display Codes |
|---|---|---|---|
| Note (**2**) | /NTE | S ALSO PUBLISHED/NTE | NTE |
| Number of Contract | /NC | S 016-77-1 RPU B/NC | NC |
| Number of Report (number and prefix) | /NR | S GEPP-8/NR<br>S GEPP/NR | NR |
| Patent Assignee **(3,5)** | /PA | S BATTELLE CORP/CS | PA |
| Patent Country (WIPO code and text) **(5)** | /PC | S GB/PC | PNO |
| Patent Number, Original **(5)** | /PNO (or /PATS) | S GB1 122 151/PNO | PNO |
| Physical Properties | /PHP | S BIT/PHP | HIT |
| Priority Date **(1,5)** | /PRD | S DEC 1960/PRD | PRAO, PRAI |
| Priority Number, Original **(5)** | /PRNO | S AUSTRALIA006404/PRNO | PRAO |
| Priority Year **(1,5)** | /PRY | S PRY>1965 | |
| Publication Date **(1)** | /PD | S JAN 2004-MAR 2004/PD | PD, SO |
| Publication Year **(1)** | /PY | S 2004-2005/PY | SO, PNO |
| Publisher **(3)** | /PB | S MCGRAW LONDON/PB | PB, SO |
| Reference **(2)** | /RE | S LANDRY M/RE | RE |
| Reference Count **(1)** | /REC (or /RE.CNT) | S L1 AND REC<10 | REC, SO |
| Source (contains CODEN, journal title and other higher-level titles, ISBN, ISSN, SICI, Internet URL, publisher, meeting information, number of contract, number of report) | /SO | S EARTH PLANET/SO<br>S (CREATIVE COMP?(L)USA)/SO<br>S 0031-9201/SO<br>S WWW.COMPUTER.ORG/SO<br>S AABNAC/SO | SO |
| Supplementary Term | /ST | S AL2O3-NA2O/ST<br>S MEASUR? DEVICE#/ST | ST |
| Title* | /TI | S GRAVITY PARAMETERS/TI | TI |
| Uniform Resource Locator **(3)** | /URL | S JHEP ARCHIVE/URL | URL, SO |
| Update Date **(1)** | /UP | S UP=JUL 2023 | UP |
| Word Count, Title **(1)** | /WC.T | S L1 AND WC.T>10 | WC.T |

**(1)** Numeric search field that may be searched using numeric operators or ranges.
**(2)** Field available for data since 1969 only.
**(3)** Search with implied (S) proximity is available in this field.
**(4)** An online thesaurus is available in this field.
**(5)** Field available until 1976.

# Property Fields[(1)]

In INSPEC a numeric search for a specific set of physical properties (/PHP) is available within the text fields (TI, AB). The numeric values are not displayed as single fields but highlighted within the hit displays.

EXPAND in the PHP field (e.g., = > E A/PHP) to see all available physical properties. A search with the respective field codes will be carried out in all database fields with English text. The /PHP index contains a complete list of codes and related text for all physical properties available for numeric search.

| Field Code | Property | Unit | Symbol | Search Examples |
|---|---|---|---|---|
| /AOS | Amount of substance | Mol | mol | S 10 /AOS |
| /BIR | Bit Rate | Bit/Second | bit/s | S 8000-10000/BIR |
| /BIT | Stored Information | Bit | Bit | S BIT > 3 MEGABIT |
| /CAP | Capacitance | Farad | F | S 1-10 MF/CAP |
| /CATA | Catalytic Activity | Katal | kat | S 1-10/CATA |
| /CDN | Current Density | Ampere/Square Meter | $A/m^2$ | S CDN>10 A/M**2 |
| /CMOL | Molarity, Molar Concentration | Mol/Liter | mol/L | S UREA/BI (S) 8/CMOL |
| /CON | Conductance | Siemens | S | S 1S-3/CON |
| /DB | Decibel | Decibel | dB | S DB>50 |
| /DEG | Degree | Degree | ° | S CYLINDER/BI (S) 45/DEG |
| /DEN (/C) | Density (Mass Concentration | Kilogram/Cubic Meter | $kg/m^3$ | S 5E-3-10E-3/DEN |
| /DEQ | Dose Equivalent | Sievert | Sv | S 100/DEQ |
| /DOA | Dosage | Milligram/Kilogram/Day | mg/day | S 100-300/DOA |
| /DOS (/LD50) | Dose | Milligram/Kilogram | mg/kg | S DOS>0.8 |
| /DV | Viscosity, dynamic | Pascal * Second | Pa * s | S DV>5000 |
| /ECH (/CHA) | Electric Charge | Coulomb | C | S 0.0001-0.001/ECH |
| /ECO (/ECND) | Electrical Conductivity | Siemens/Meter | S/m | S ECO>800 S/M (15A) AQUEOUS |
| /ELC (/ECC) | Electric Current | Ampere | A | S 1-10/ELC |
| /ELF (/ECF) | Electric Field | Volt/Meter | V/m | S 200/ELF |
| /ENE | Energy | Joule | J | S DROPLETS (10A) 40 JOULE - 70 JOULE /ENE |
| /ERE (/ERES) | Electrical Resistivity | Ohm * Meter | Ohm * m | S ERE>0.1 |
| /FOR | Force | Newton | N | S 50 N /FOR |
| /FRE (/F) | Frequency | Hertz | Hz | S OSCILLAT?/BI (S) 1- 3/FRE |
| /IU | International Unit | none | IU | S IU>1000 (P) VITAMIN A |
| /KV | Viscosity, kinematic | Square Meter/Second | $m^2/s$ | S METHYLPOLYSILOXANES/BI (10A) 200-300 CST /KV |
| /LEN (/SIZ) | Length, Size | Meter | m | S 1-4/LEN |
| /LUME | Luminous Emittance, Illuminance | Lux | lx | S 10-50/LUME |
| /LUMF | Luminous Flux | Lumen | Lm | S LUMF>1000 |
| /LUMI | Luminous Intensity | Candela | cd | S LUMI<4 |
| /M | Mass | Kilogram | kg | S ALLOY/BI (30A) 1E-10-1E-5/M |
| /MCH | Mass to Charge Ratio | none | m/z | S MCH=1 |
| /MFD (/MFS) | Magnetic Flux Density | Tesla | T | S MFD>102 |
| /MFR (/MFL) | Mass Flow Rate | Kilogram/Second | kg/s | S MFR<0.1 |
| /MFST | Magnetic Field Strength | Ampere/Meter | A/m | S 45-50/MFST |
| /MM (/MW, /MOM) | Molar Mass | Gram/Mol | g/mol | S 2000-3000 G/MOL/MM |
| /MOLS | Molality of Substance | Mol/Kilogram | mol/kg | S 01.-10 MOL/KG/MOLS |
| /MVR | Melt Volume Rate, Melt Flow Rate | None | g/10 min | S 3/MVR |
| /PER | Percent (Proportionality) | none | % | S POLYMER?/AB (5A) 4/PER |

# Property Fields (cont'd)

| Field Code | Property | Unit | Symbol | Search Examples |
|---|---|---|---|---|
| /PHV (/PH) | pH Value | pH | pH | S 7.4-7.6/PHV |
| /POW (/PW) | Power | Watt | W | S "HG-XE-?"/BI (S) 100-200 WATT/POW |
| /PPM | Parts per million | Ppm | ppm | S 100 PPM /PPM (10A) ADDITIVE/BI |
| /PRES (/P) | Pressure | Pascal | Pa | S (VACUUM (5A) DISTILL?)/BI (S) 1000-1100/PRES |
| /RAD | Radioactivity | Becquerel | Bq | S 1-10/RAD |
| /RES | Electrical Resistance | Ohm | Ohm | S SENSOR /BI (S) 10- 100/RES |
| /RI | Refractive Index | none | | S 3-4/RI |
| /RSP | Rotational Speed | Revolution/Minute | rpm | S 2 RPM - 100 RPM /RSP (S) ENGINE/BI |
| /SAR | Area /Surface Area | Square Meter | $m^2$ | S PLATE/BI (S) 10 M**2 - 100 M**2 /SAR |
| /SOL (/SLB) | Solubility | Gram/100 gram | g/100 g | S SOL>20 G/100G (5A) WATER |
| /SSAM | Specific Surface Area, Mass | Square Meter/Kilogram | $M^2/kg$ | S 1-10/SSAM |
| /STSC (/ST) | Surface Tension | Joule /Square Meter | $J/m^2$ | S 60 J/M**2/STSC |
| /TCO (/TCND) | Thermal Conductivity | Watt/Meter * Kelvin | W/m * K | S 1/TCO (S) HEAT? |
| /TEMP (/T) | Temperature | Kelvin | K | S 20-25/TEMP |
| /TEX | Tex | Gram/Kilometer | g/km | S 1-5/TEX |
| /TIM | Time | Second | s | S ?INCUB?/BI (10A) 50 S - 150 S /TIM |
| /VEL (/V) | Velocity | Meter per Second | m/s | S REDUC?/BI (S) 1E-3-5E-3/VEL |
| /VELA | Velocity, angular | Radian/Second | rad/s | S VELA>10 |
| /VLR | Volumetric Flow Rate | Cubic Meter/Second | $m^3/s$ | S 1 M**3/S - 2 M**3/S /VLR (S) ABRASIVE |
| /VOL | Volume | Cubic Meter | $m^3$ | S 1E-8-2E-8/VOL.EX |
| /VOLT | Voltage | Volt | V | S TENSION/BI (10A) 5E-3 V <VOLT<7E-3 V |

**(1)** Exponential format is recommended for the search of particularly high or low values, e.g., 1.8E+7 or 1.8E7 (for 18000000) or 9.2E-8 (for 0.000000092).

# Controlled Term (/CT) Thesaurus

All Relationship Codes can be used with both the SEARCH and EXPAND command.

| Code | Content | Examples |
|---|---|---|
| ALL | All Associated Terms | E ALUMINIUM COMPOUNDS+ALL/CT |
| AUTO **(1)** | Automatic Relationship (SELF, USE, UF) | S POWDER SPRAYING+AUTO/CT |
| BT | Broader Terms (also BT1, BT2 etc. possible) | E TERBIUM ALLOYS+BT/CT |
| HIE | Hierarchy (all Broader and Narrower Terms) | E SHOCK WAVES+HIE/CT |
| KT | Keyword Terms (Multi-word Phrases containing the specified Keyword Term) | E POWDER+KT/CT |
| NOTE | Notes associated with Terms (SELF, DA, CC) | E ELECTRIC MACHINES+NOTE/CT |
| NT | Narrower Terms (also NT1, NT2 etc. possible) | S ACOUSTIC TRANSDUCERS+NT/CT |
| PFT | All Preferred, Forbidden Terms, and Dates (SELF, DA, USE, UF) | E POWER AMPLIFIERS+PFT/CT |
| PT | Prior Terms | E DATABASE MANAGEMENT SYSTEMS+PT/CT |
| RT | Related Terms (see also) | E TRANSIENT ANALYSERS+RT/CT |
| STD | Standard (all Broader, Narrower, Related, and Prior Terms) | E TRANSFER FUNCTIONS+STD/CT |
| UF | Used For (Preferred and Forbidden Terms) | E TRANSDUCERS+UF/CT |
| USE | Use (Forbidden and Preferred Terms) | E SOLIONS+USE/CT |

**(1)** Automatic Relationship is SET OFF. In case of SET REL ON the result of EXPAND or SEARCH without any relationship code is the same as described for AUTO.

# IPC THESAURUS

The classifications, validity and catchwords for the main headings and subheadings from the current ($8^{th}$) edition of the WIPO International Patent Classification (IPC) manual are available. The classifications from the previous editions (1-7) are also available as separate thesauri. To EXPAND and SEARCH in the thesauri for editions 1-8, use the field code followed by the edition number, e.g., /IPC2 for the $2^{nd}$ edition. Catchwords are included only in the thesauri for the $8^{th}$, $7^{th}$, $6^{th}$, and $5^{th}$ editions.

| Code | Content | Examples |
|---|---|---|
| ADVANCED (ADV) | Advanced Level Codes for the Core Level IPC Code | E A61K0066-02+ADVANCED/IPC |
| ALL | All Associated Terms (BT, SELF, NT, RT) | E C01C003-00+ALL/IPC |
| BRO (MAN) | Complete Class | E C01C+BRO/IPC |
| BT | Broader Term (SELF, BT) | E C01F001-00+BT/IPC |
| BTn | Broader Term (SELF, BT) up to the next n levels (n =1,2,…) | E C01F001-21+BT2/IPC |
| CORE (COR) | Core Codes for the Advanced Level IPC Code | E G08C0019-22+CORE/IPC |
| ED | Complete title of the SELF term and IPC manual | E C01F001-00+ED/IPC |
| HIE | Hierarchy Term (Broader and Narrower Term) (BT, SELF, NT) | E C011003-00+HIE/IPC |
| INDEX | Complete title of the SELF term | E C01F001-00+INDEX/IPC |
| KT | Keyword Term (catchwords) (SELF, KT) | E CYANOGEN+KT/IPC |
| NEXT | Next Classification | E C01C001-00+NEXT5/IPC |
| NT | Narrower Terms (SELF, NT) | E C01C+NT/IPC |
| NTn | Narrower Terms (SELF, NT) down to the next n levels (n =1,2,…) | E C01C+NT3/IPC |
| PREV | Previous Code within the same class (SELF, PREV) | E C01C001-12+PREV/IPC |
| PREV(n) | Previous n classifications within the same class | E C01C001-12+PREV10/IPC |
| RT (SIB) | Related Terms (SELF, RT) | E C01C003-20+RT/IPC |
| TI | Complete Title of the SELF Term and Broader Terms (BT, SELF) | E C01F001-00+TI/IPC |

# DISPLAY and PRINT Formats

Any combination of formats may be used to display or print answers. Multiple codes must be separated by spaces or commas, e.g., D L1 1-5 TI AU. The fields are displayed or printed in the order requested.
Hit term highlighting is available for all fields except AU and CS. Highlighting must be ON during SEARCH to use the HIT, KWIC, and OCC formats.

| Format | Content | Examples |
|---|---|---|
| AB | Abstract | D TI AB |
| AI | Application Information | |
| AN | Accession Number | D 1-5 AN |
| AO | Astronomical Object | D AO |
| AU | Author | D AU TI |
| CC | Classification Code | D CC |
| CCO | Classification Code, Original | D CCO |
| CHI | Chemical Indexing | D CHI |
| CS | Corporate Source (format includes AU) | D CS |
| CSID **(1)** | Corporate Source Identifier (Ringgold Identifier (RIN)) | D CSID |
| CT | Controlled Term | D CT |
| CTO | Controlled Term, Original | D CTO |
| CY | Country | D CY |
| DN | Document Number | D AN DN |
| DT | Document Type (incl. Treatment Code) | D DT |
| ED | Entry Date | D ED |
| EML **(1)** | E-mail Address | D EML |
| FS **(1)** | File Segment | D FA |
| FTDOI **(1)** | Digital Object Identifier | D FTDOI |
| IPC | International Patent Classification | D IPC |
| ISN **(1)** | International Standard (Document) Number | D ISN |
| JT **(1)** | Journal Title | D JT |
| JTA **(1)** | Journal Title, Abbreviated | D JTA |
| JTF **(1)** | Journal Title, Full | D JTF |
| LA | Language | D LA TI |
| MD **(1)** | Meeting Date | D MD |
| ML **(1)** | Meeting Location | D ML |
| MT **(1)** | Meeting Title | D MT |
| MY **(1)** | Meeting Year | D MY |
| NC | Number of Contract | D NC |
| NR | Number of Report | D NR |
| NTE | Note | D NTE |
| PA | Patent Assignee | D PA |
| PB **(1)** | Publisher | D PB |
| PD **(1)** | Publication Date | D PD |
| PI | Patent Information | D PI |
| PNO **(1)** | Patent Number, Original | D PNO |
| PRAI | Priority Information | D PRAI |
| PRAO **(1)** | Priority Information, Original | D PRAO |
| PY **(1)** | Publication Year | D PY |
| RE | Reference | D RE |
| REC (RE.CNT) **(1)** | Reference Count | D REC |
| SO | Source | D SO |
| ST | Supplementary Term | D ST |
| TI | Title | D TI |
| UP **(1)** | Update Date | D UP |
| URL **(1)** | Uniform Resource Locator | D URL |
| WC.T **(1)** | Word Count, Title | D WC.T |
| ABS | AN, DN, AB | D ABS |
| ALL | BIB, AB, CC, CCO, CT, CTO, ST, IPC, AO, CHI | D 1-3 ALL |
| DALL | ALL, delimited for post-processing | D DALL |
| IALL | ALL, indented with text labels (BIB is default) | D IALL |
| BIB | AN, DN, TI, AU, CS, NC, NR, SO, AV, DT, CY, LA,<br>Patents: AN, DN, TI, IN, PA, PI, AI, PRAI, DT, CY, LA<br>(BIB is default) | D BIB |

## DISPLAY and PRINT Formats (cont'd)

| Format | Content | Examples |
|---|---|---|
| IBIB<br>IND<br>MAX<br>SCAN **(2)**<br>TRIAL (TRI, SAMPLE, SAM, FREE) | BIB, indented with text labels<br>AN, DN, CC, CCO, CT, CTO, ST, IPC, AO, CHI<br>ALL + RE<br>TI, IPC, CC, CT, ST (random display without answer numbers)<br>TI, CC, CCO, CT, CTO, ST, IPC, AO, CHI | D IBIB<br>D IND<br>D MAX<br>D SCAN<br>D TRI |
| HIT<br>KWIC<br>OCC | Hit term(s) and field(s)<br>Up to 50 words before and after hit term(s) KeyWord-In-Context)<br>Number of occurrences of hit term(s) and field(s) in which they occur | D HIT<br>D KWIC<br>D OCC |

**(1)** Custom display only.
**(2)** SCAN must be specified on the command line, i.e., D SCAN or DISPLAY SCAN.

## SELECT, ANALYZE, and SORT Fields

The SELECT command is used to create E-numbers containing terms taken from the specified field in an answer set.

The ANALYZE command is used to create an L-number containing terms taken from the specified field in an answer set.

The SORT command is used to rearrange the search results in either alphabetic or numeric order of the specified field(s).

| Field Name | Field Code | ANALYZE/ SELECT (1) | SORT |
|---|---|---|---|
| Abstract | AB | Y | N |
| Accession Number | AN | Y | N |
| Application Date | AD | Y | Y |
| Astronomical Object | AO | Y | Y |
| Author | AU | Y | Y |
| Chemical Indexing | CHI | Y | N |
| Citation | CIT | Y **(2,3)** | N |
| Classification Code | CC | Y | Y |
| Classification Code, Original | CCO | Y | Y |
| CODEN | CODEN | N | Y |
| Controlled Term | CT | Y | N |
| Controlled Term, Original | CTO | Y | N |
| Corporate Source | CS | Y **(2)** | Y |
| Corporate Source Identifier (Ringgold Identifier (RIN)) | CSID | Y | Y |
| Country of Publication | CY | Y | Y |
| Document Number | DN | Y | Y |
| Document Type | DT (TC) | Y | Y |
| E-mail Address | EML | Y | Y |
| Entry Date | ED | Y | Y |
| International Patent Classification | IPC | Y | N |
| International Standard (Document) Number | ISN | Y **(4)** | Y |
| International Standard Book Number | ISBN | N | Y |
| International Standard Serial Number | ISSN | N | Y |
| Journal Title | JT | Y | Y |
| Journal Title, Abbreviated | JTA | Y **(5)** | Y |
| Journal Title, Full | JTF | Y **(5)** | Y |
| Language | LA | Y | Y |
| Meeting Date | MD | Y | Y |
| Meeting Location | ML | Y | Y |
| Meeting Title | MT | Y | Y |
| Meeting Year | MY | Y | Y |

# SELECT, ANALYZE, and SORT Fields (cont'd)

| Field Name | Field Code | ANALYZE/ SELECT (1) | SORT |
|---|---|---|---|
| Note | NTE | Y | Y |
| Number of Contract | NC | N | Y |
| Number of Report | NR | Y | Y |
| Occurrence Count of HIT Terms | OCC | N | Y |
| Patent Assignee | PA | Y | Y |
| Patent Country | PC | Y | Y |
| Patent Number | PN | Y | Y |
| Patent Number, Original | PNO | Y | Y |
| Priority Date | PRD | Y | Y |
| Priority Number, Original | PRNO (PRAO) | Y | Y |
| Priority Year | PRY | Y | Y |
| Publication Date | PD | Y | Y |
| Publication Year | PY | Y | Y |
| Publisher | PB | Y | Y |
| Reference | RE | Y | N |
| Reference Count | REC (RE.CNT) | Y | Y |
| Source | SO | Y **(6)** | N |
| Supplementary Term | ST | Y | N |
| Title | TI | Y (default) | Y |
| Uniform Resource Locator | URL | Y | Y |
| Update Date | UP | Y | Y |
| Word Count, Title | WC.T | Y | Y |

**(1)** HIT may be used to restrict terms extracted to terms that match the search expression used to create the answer set, e.g., SEL HIT TI.
**(2)** SELECT HIT and ANALYZE HIT are not valid with this field.
**(3)** SELECT CIT or ANALYZE CIT allows you to extract the reference from the source documents in this file and have them automatically converted to a citation format for searching in the SCISEARCH file. SEL or ANALYZE CIT extracts first author, publication year, volume, first page, with a truncation symbol and with /RE appended to the terms created by SELECT.
**(4)** Selects or analyzes CODEN, ISSN and ISBN, and appends /ISN to the terms created by SELECT.
**(5)** Appends /JT to the terms created by SELECT.
**(6)** Selects or analyzes CODEN, ISSN and ISBN, and appends /SO to the terms created by SELECT.

# Sample Records

**DISPLAY BIB of JOURNAL**

AN 2021:20413648 INSPEC
DN 20413648
TI An "on-off" electrochemiluminescence immunosensor for PIVKA-II detection based on the dual quenching of CeO2-Au-g-C3N4 hybrids by Ag nanocubes-VB2
AU Zhujun Ai(1); Ke Chen(1); Hua Tang(1); Min Zhao(2); Daobin Han(2); Dongmei Xiong(3)
CS (1)Chongqing Medical University, Department of Infectious Diseases, Chongqing, China; (2)Chongqing Medical University, Key Laboratory of Clinical Laboratory Diagnostics (Ministry of Education), Chongqing, China; (3)Chongqing Medical and Pharmaceutical College, Nursing Department, Chongqing, China
EMAIL: tanghua86162003@cqmu.edu.cn
SO Biosensors and Bioelectronics (1 May 2021), Volume 179, pp. 92-99, 41 refs.
CODEN: BBIOE4 ISSN: 0956-5663
DOI: https://doi.org/10.1016/j.bios.2021.113059
Published by: Elsevier B.V., Netherlands
PUI S0956-5663(21)00096-8
CY Netherlands
DT Journal; Practical; Experimental
FS INSPEC 1969-; A; B
LA English
ED Entered STN: 26 Mar 2021
Last updated on STN: 26 Mar 2021

**DISPLAY ALL of ARCHIVE**

AN 1899A00035 INSPEC
DN 1899A00035
TI New radio-active element in pitch blende
AU Curie, P.; Sklodowska-Curie
SO Comptes Rendus Hebdomadaires des Seances de l'Academie des Sciences (1898), Volume 127, pp. 175-178
CY France
DT Journal
FS INSPEC 1898-1968; A
LA English
ED Entered STN: 14 Oct 2015
Last updated on STN: 26 Apr 2016
AB The suggestion that pitch blende contains some substance more active than uranium (see Abstract Number 1898A01224) has been followed up and found to be true. It is present in the sulphides precipitated by sulphuretted hydrogen from an acid solution of pitch blende, and is so in company with lead, bismuth, copper, arsenic, and antimony. Sulphide of ammonium removes the arsenic and the antimony, nitric acid dissolves the remaining sulphides, and sulphuric acid removes the lead; the sulphate of lead should be well washed with dilute sulphuric acid in order to recover the portion of the element sought for, which is carried down by the precipitate. There remains in solution the new element, with bismuth and copper: ammonia in excess precipitates the two former. No good method has been found for completely separating these by wet methods, but the two sulphides have different volatilities, and when sublimed in a vacuum tube condense at different parts of the tube. The ultimate product is a sulphide 400 times as active as uranium, and appears to be that of a new metal, analytically related to bismuth: name

proposed, Polonium. There is, however, no characteristic ray in its spectrum; but this is the character of the spectra of uranium, thorium, and tantalum, which present merely innumerable very fine lines, difficult to recognise.
CC A4200 Optics
CCO Light
CT rays
CTO rays

**DISPLAY MAX**

AN 2022:22257643 INSPEC Full-text
DN 22257643
TI Flow control of double bypass variable cycle engine in modal transition
AU Chen, H.(1); Cai, C.(1); Luo, J.(1); Zhang, H.(1)
CS (1)Nanjing University of Aeronautics and Astronautics, Jiangsu Province Key Laboratory of Aerospace Power Systems, Nanjing, China
EMAIL: zh_zhhb@126.com
SO Chinese Journal of Aeronautics (2022), Volume 35, Number 10, pp. 134-147, 26 refs.
ISSN: 2588-9230
DOI: https://doi.org/10.1016/j.cja.2022.02.001
Published by: Elsevier B.V., Netherlands
PUI S1000-9361(22)00029-2
CY Netherlands
DT Journal; Practical; Theoretical
FS INSPEC 1969-; A; C; E
LA English
ED Entered STN: 24 Nov 2022
Last updated on STN: 24 Nov 2022
AB To study the change mechanism and the control of the variable cycle engine in the process of modal transition, a variable cycle engine model based on component level characteristics is established. The two-dimensional CFD technology is used to simulate the influence of mode selection valve rotation on the engine flow field, which improves the accuracy of the model. Furthermore, the constant flow control plan is proposed in the modal transition process to reduce the engine installed drag. The constant flow control plan adopts the augmentation linear quadratic regulator control method. Simulation results indicate that the control method is able to effectively control the bypass ratio and demand flow of the variable cycle engine, and make the engine transform smoothly, which ensures the stable operation of the engine in modal transition and the constant demand flow of the engine. All rights reserved Elsevier.
IPC B64C; B64D; F01; F15D; F15D0001-00; F16K; G05B0017-00; G05D0007-00
CC A4785 Applied fluid mechanics; A4710 General fluid dynamics theory, simulation and other computational methods; C7440 Civil and mechanical engineering computing; C1310 Control system analysis and synthesis methods; C1330 Optimal control; E2130 Fluid mechanics and aerodynamics (mechanical engineering); E2210 Mechanical components; E2320 Engines; E3650C Aerospace industry; E0410H Mechanical engineering applications of IT; E1400 Design
IPC Information:
B64C Aeroplanes; Helicopters
B64D Equipment for fitting in or to aircraft; Flying suits; Parachutes; Arrangements or mounting of power plants or propulsion transmissions
F01 Machines or engines in general; Engine plants in general; Steam engines
F15D Fluid dynamics, i.e., methods or means for influencing the flow of gases or liquids

F15D1/00 Influencing the flow of fluids

F16K Valves; Taps; Cocks; Actuating-floats; Devices for venting or aerating
G05B17/00 Systems involving the use of models or simulators of said systems
G05D7/00 Control of flow

CT aerodynamics; aerospace engines; aircraft; computational fluid dynamics; control system synthesis; design engineering; drag; engines; flow control; linear quadratic control; mechanical engineering computing; subsonic flow; valves

ST engine installed drag; constant flow control plan; quadratic regulator control method; constant demand flow; double bypass variable cycle engine; variable cycle engine model; component level characteristics; two-dimensional CFD technology; mode selection valve rotation; engine flow field; modal transition process

RE Y. Xu, M. Chen, H. Tang, Preliminary design analysis of core driven fan stage in adaptive cycle engine. (AIAA, 2017) 10.2514/6.2017-4790
G. Kopasakis, L. Cheng, J. Connolly, Stage-by-stage and parallel flow path compressor modeling for a variable cycle engine. (AIAA, 2015) 10.2514/6.2015-4143
E. Willis, A. Welliver, Variable-cycle engines for supersonic cruising aircraft. (AIAA, 1976) 10.2514/6.1976-759
J. Zheng, M. Chen, H. Tang, Matching mechanism analysis on an adaptive cycle engine. Chin J Aeronaut. 30 (2017) 10.1016/j.cja.2017.02.006
Y. Lyu, H. Tang, M. Chen, A study on combined variable geometries regulation of adaptive cycle engine during throttling. Appl Sci. 6 (2016) 10.3390/app6120374
R. Simmons, Design and control of a variable geometry turbofan with an independently modulated third stream [dissertation]. (The Ohio State University, 2009)
J. Zheng, H. Tang, M. Chen, Equilibrium running principle analysis on an adaptive cycle engine. Appl Therm Eng. 132 (2018) 10.1016/j.applthermaleng.2017.12.102
H. Chen, H. Zhang, Z. Hu, The installation performance control of three ducts separate exhaust variable cycle engine. IEEE Access. 7 (2019) 10.1109/ACCESS.2018.2886369
J. Vdoviak, P. Knott, J. Ebacker, Aerodynamic/acoustic performance of YJ101/double bypass VCE with coannular plug nozzle. (NASA, 1981)
J. Jasa, J. Gray, J. Seidel, C. Mader, J. Martins, Multipoint variable cycle engine design using gradient-based optimization. (AIAA, 2019) 10.2514/6.2019-0172
L. Jia, Y. Chen, R. Cheng, T. Tan, K. Song, Designing method of acceleration and deceleration control schedule for variable cycle engine. Chin J Aeronaut. 34 (2021) 10.1016/j.cja.2020.08.037
H. Chen, H. Zhang, Y. Wang, Installation characteristics of variable cycle engine based on inlet flow matching. Int J Turbo Jet Engines. 38 (2021) 10.1515/tjj-2018-0031
J. Connolly, D. Friedlander, G. Kopasakis, Computational fluid dynamics modeling of a supersonic nozzle and integration into a variable cycle engine. (AIAA, 2014)
P. Vyvey, W. Bosschaerts, V. Villace, Study of an airbreathing variable cycle engine. (AIAA, 2011) 10.2514/6.2011-5758
H. Zhou, Z. Wang, Z. Liu, Impact of variable area bypass injector on variable cycle engine performance. J Aerosp Power. 31 (2016)
Z. Liu, Z. Wang, H. Huang, Numerical simulation of performance of variable cycle engines. J Aerosp Power. 25 (2010)
J. Liu, Z. Wang, W. Yan, Numerical simulation of transition between single and double bypass mode. J Propul Technol. 38 (2017)
R. Buettner, R. Roberts, M. Wolff, Design of a transient variable cycle

turbine engine model for system integration with controls. (AIAA, 2017) 10.2514/6.2017-1940
H. Aygun, O. Turan, Exergetic sustainability off-design analysis of variable-cycle aero-engine in various bypass modes. Energy. 195 (2020) 10.1016/j.energy.2020.117008
H. Zhou, Z. Wang, Z. Liu, Variable geometry characteristics research of double bypass variable cycle engine. Acta Aeronaut Astronaut Sin. 35 (2014)
J. Hurtle, P. Toot, R. Wanger, Full authority digital electronic control/FADEC/- Variable cycle engine demonstration. (AIAA, 1981) 10.2514/6.1981-1498
M. Corbett, Large-scale transient loading of a three-stream variable cycle engine. (AIAA, 2012) 10.2514/6.2012-4142
T. Tagashira, N. Sugiyama, A performance optimization control of variable cycle engines. (AIAA, 2003) 10.2514/6.2003-4984
X. Gou, W. Zhou, J. Huang, Technology of Variable cycle engine component level modeling. J Aerosp Power. 28 (2013)
X. Zhang, Z. Wang, J. Shi, Optimization of cycle parameters of variable cycle engine based on response surface model. (AIAA, 2017) 10.2514/6.2017-4899