

ET InspecDirect



The intelligent online tool
for scientific and technical research

User guide

www.theiet.org/inspecdirect

InspecDirect

Get straight to the information you need

About Inspec Direct

Inspec Direct is a powerful research tool that provides access to the Inspec Database via the Web. Designed specifically for science and engineering researchers, students, and professionals from all backgrounds, Inspec Direct allows you to quickly find and analyse information from your desk.

The Inspec Direct search interface has a number of search options. These are accessed via tabs across the top of the screen. These allow you to choose between Quick Search, Advanced Search and Expert Search options and also to search Inspec's Thesaurus, Classification scheme and List of Journals to find terms to enhance search strategies. A comprehensive context-sensitive help system is available throughout Inspec Direct.

Key features:

- Inspec, Inspec Archive (1898 – 1968) and Ozone files
- Three different search levels: Quick, Advanced and Expert
- Search Aids and Index Browser to help pinpoint relevant search terms
- A range of sort and record display options
- Analysis of search results
- Export search results in multiple formats
- Updated weekly
- Personalisation features
- 'Custom Alerts' feature
- DOI linking to full-text articles
- Provides usage statistics
- OpenURL compatible
- Metasearch compatible

With Inspec Direct, users can find the relevant information to:

- Keep track of latest research
- Discover new product information
- Forecast technology and monitor industry trends
- Gain competitive intelligence
- Evaluate prior art for a patentability assessment

Inspec is the leading English language abstracting and indexing service providing information from the world's literature in:

- Physics
- Electrical engineering
- Electronics
- Communications
- Control engineering
- Computing
- Information technology
- Manufacturing
- Production engineering
- Mechanical engineering

Inspec scans over 4,000 journals and 2,000 conference proceedings, as well as numerous books, reports and dissertations, adding 700,000 records to the database each year. The database dates back to 1969 and contains nearly 11 million records.



The Inspec Archive

The Inspec Archive contains the historical scientific records produced for the Science Abstracts series of journals during the period 1898-1968, which were the precursor to the Inspec Database. Initially they were available only in printed format, but the entire collection has been digitised and is available on Inspec Direct.

The Archive contains:

- Over 873,700 records
- Longer abstracts than today and tables, graphs and figures from the original source document in many cases
- The original value-added indexing and classifications
- Enhancements in the form of the nearest equivalent current Inspec Controlled Indexing Terms, Inspec Thesaurus and Inspec Classification Codes
- Conference proceedings, books, journals, reports and dissertations

The fully searchable electronic Inspec Archive Database represents the 176 volumes (and over 140,000 pages) of the printed Science Abstracts series of journals.

Customer support

A range of training options is available to help you get the best out of Inspec Direct, including an international programme of workshops, tailored in-house training or remote training sessions via the Internet.

To request training or to discuss your needs further please contact your local Inspec office.

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Getting Started

Searching Inspec Direct

Register and log in - To create a personal account to access a host of personalisation features (see the Personalisation page 12 for details of these features).

To search choose one of the 3 search tabs, Quick, Advanced or Expert Search. We recommend that you use **Advanced Search** which provides the best balance of ease of use and powerful functionality.

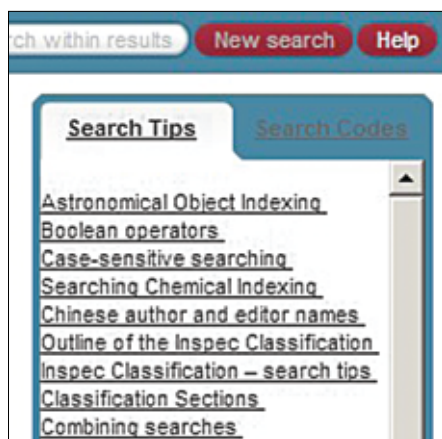
Online Help

Online help is available from any page by clicking the 'Help' button located in the upper right corner.

Detailed context-sensitive help is also available for each function. Click on any of the small question-mark icons on the screen to access help on the relevant topics.

Search Tips

On the **Advanced Search** and **Expert Search** pages, there is a comprehensive list of search tips which can be accessed using the hyperlinks.



Inspec Direct Search Tips

Inspec Database Record

A typical Inspec record contains an English language title and descriptive abstract, together with full bibliographic details to enhance search elements such as the Inspec Thesaurus, Classification Codes and Treatment Codes. Each of these are explained in detail on later pages. Where available there are links to the full text article on the publisher's website via the **DOI** (Digital Object Identifier) link (see page 18).

Accession No.: 10159784

Update: 2008-036

Document Type: Journal paper

Title: 2.5 V passive CMOS mixer with 20 dBm P1 dB compression

Author(s): De Backer, E.; Bauwelinck, J.; Melange, C.; Matei, E.; Ossieur, P.; Qiu, X.Z.; Vandewege, J.; Horvath, S.

Journal: Electronics Letters, vol.44, no.18, p.1067-9

Publication Date: 28 Aug. 2008

Publisher: IET, UK

ISSN: 0013-5194

JIN: BN60

CODEN: ELLEAK

Language: English

Abstract: A passive CMOS down conversion mixer with LO buffer is presented in 0.25 μm SiGe BiCMOS using a 2.5 V supply. With a 60 MHz RF signal input, measurements show that the conversion loss is 2.9 dB, the input-referred 1 dB compression point is 20 dBm and the input-referred noise is -146.8 dBm/Hz. Compared to conventional NMOS mixers, the 1 dB compression point is improved by 9.7 dB. The tradeoffs and the design of the LO buffer, which has a strong impact on the intermodulation distortion, are also presented. (8 refs.)

Treatment: Practical; Experimental

Controlled indexing: BiCMOS integrated circuits; buffer circuits; CMOS integrated circuits; Ge-Si alloys; intermodulation distortion; micromechanical devices; passive networks; UHF mixers;

Uncontrolled indexing: passive CMOS down conversion mixer; LO buffer; BiCMOS; RF signal input; compression point; input-referred noise; NMOS mixers; intermodulation distortion; gain 9.7 dB; voltage 2.5 V; size 0.25 μm ; frequency 60 MHz; SiGe

Classification: A0710C Micromechanical devices and systems; B2570K Mixed technology integrated circuits; B1250 Modulators, demodulators, discriminators and mixers; B1350 Microwave circuits and devices; B1270D Passive filters and other passive networks; B2570D CMOS integrated circuits; B5230 Electromagnetic compatibility and interference; B6120 Modulation and coding methods; B2575D Design and modelling of MEMS and NEMS devices

Numerical data indexing: gain 9.7E+00 dB; voltage 2.5E+00 V; size 2.5E-07 m; frequency 6.0E+07 Hz

Chemical indexing: SiGe/int Ge/int Si/int SiGe/bin Ge/bin Si/bin

Inspec Direct Sample Record

Searching

Introduction

By using a combination of keywords (words to search for) and Boolean operators (**AND, OR, NOT**), you can narrow or broaden your searches to include or exclude particular concepts.

The **Quick Search** form will search all fields. If you wish to search in specific fields, you should use the **Advanced Search** or **Expert Search** pages.

Search Operators

The Inspec Direct search operators are used to link search terms or fields. Depending on the operators used, your search will be broadened or narrowed:

OR operator finds records that contain at least one or more of the search terms. It is used to **broaden a search**.

AND operator finds records that contain all of the search terms and thus is used to **narrow a search**.

NOT operator finds records that contain one term but not another. It is used to **narrow a search by excluding specific terms**.

<NEAR> operator locates records in which the search terms are in close proximity within the same bibliographical record. This operator can be used to **connect words or phrases within a search field** but not between search fields.

Example

If you enter **(mercury <NEAR> liquid) NOT planet** into the **'SEARCH FOR'** text box, the records retrieved will be those that contain the word mercury near to the word liquid, but which do not contain the word planet.

Searching Inspec's Value-Added Indexes

These include the following fields:

- Controlled Indexing (Thesaurus Terms)
- Classification Codes
- Specialised Indexing Fields
(Chemical, Numerical & Astronomical)
- Uncontrolled vocabulary
- Treatment types

See the relevant pages 16-17 in this guide for more information.

Truncation/Wildcard

Truncation ***** serves as a substitute for zero or more characters. Only right hand truncation is allowed.

Example

To search for any word beginning with 'comput' (e.g. computer, computing, computerised, computation), enter **comput*** into the text box.

Wildcard **?** can be used to substitute a single character.

Example

To search for either computerized or computerised, you could enter **computeri?ed** into the text box.

Literal Searching

In addition to their meaning within a record, some words also have a meaning in terms of searching, such as the word 'and', which is used as a Boolean operator. The word 'and' also occurs in some thesaurus terms, proper names, etc. There are also other common words (stop words) and punctuation – that cannot be searched for directly.

Except for the text fields, file and abstract, to search for a phrase including the word 'and', you should enclose the phrase in double quotes, e.g. **"town and country planning"**.

Searching for Bibliographic Information

Example

To search for the author A.C. Smith, enter **"Smith, A.C."** into the text box (including the quotation marks, to ensure that only those records with the author Smith, A.C. are retrieved, while those records with Smith and A.C. mentioned separately are excluded).

Advanced Search

Advanced Search allows greater flexibility in searching than Quick Search. It is possible to specify the fields to be searched and to restrict the results set using criteria such as time range and language of original document.

The screenshot shows the Inspec Direct Advanced Search interface. The main search page includes sections for 'DATABASES TO BE SEARCHED', 'SEARCH INDEXES', 'LIMIT BY', and 'SORT BY'. The 'SEARCH INDEXES' section has three rows with dropdown menus and 'Browse Index' buttons. The 'LIMIT BY' section has several dropdown menus and radio buttons for filtering results. The 'SORT BY' section has a dropdown menu and radio buttons for sorting. A 'Search Tips' dialog box is open on the right, listing various search techniques. The 'Browse Index' dialog box is also open, showing a list of authors for the 'Author' index.

Search Tips

- Astronomical Object Indexing
- Boolean operators
- Case-sensitive searching
- Searching Chemical Indexing
- Chinese author and editor names
- Outline of the Inspec Classification
- Inspec Classification - search tips
- Classification Systems
- Combining searches
- Controlled indexing terms - search tips
- Corporate sources
- Document Type Codes
- Exact phrase matches
- Exact phrase matches

Author

Index Author

Browse for Tanaka, H.

or click on letter below to browse index

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

with selected terms using operator: AND OR

- Tanaka, H.
- Tanaka, H.A.
- Tanaka, H.-A.
- Tanaka, H.F.
- Tanaka, H.K.
- Tanaka, H.K.M.
- Tanaka, H.L.
- Tanaka, H.M.
- Tanaka, H.T.

Inspec Direct Advanced Search page and Browse Index dialogue box

Use the '**SEARCH INDEXES**' boxes to select which fields you wish to search. If you click on the drop-down arrow next to the field, a full scrollable list of the search fields available will be displayed.

Browse Index

For some fields, browsable indexes are available to assist in constructing a search (those fields for which index browsing is available are highlighted).

- Click on the '**Browse Index**' button to display the Index's dialogue box.
- Type the first few letters of the phrase you wish to search.
- Click on the '**Browse**' button. Tick the boxes corresponding to the terms you wish to include in your search.
- Click on '**Go to Search**' to paste those details into the '**SEARCH INDEXES**' boxes on the main screen.

Limit By

You can restrict the results set using criteria such as time range, language of original document, etc.

Sort By

You can sort your search results using various criteria, e.g. publication date, relevance, document type, author name and accession number.

Example:

Let's assume you are interested in articles of an experimental nature on the subject of viscoelasticity that were published in conferences which took place in 2007.

1. Enter **viscoelastic*** into the first SEARCH FOR box.
2. Change the next drop-down box from 'Basic Index' to 'Conference Year' and enter **2007** into the corresponding SEARCH FOR box.
3. In the '**LIMIT BY**' section, change the 'All Treatment types' drop-down to **Experimental**.
4. Then simply click on the '**Search**' button.



Quick Search

The **Quick Search screen** is designed for those who want to carry out a simple search.

Simply enter any combination of keywords you wish to search for in the **'SEARCH FOR'** text box and click on the **'Search'** button.

Quick Search Advanced Search Expert Search Search Aids My Searches My Records My Inspec

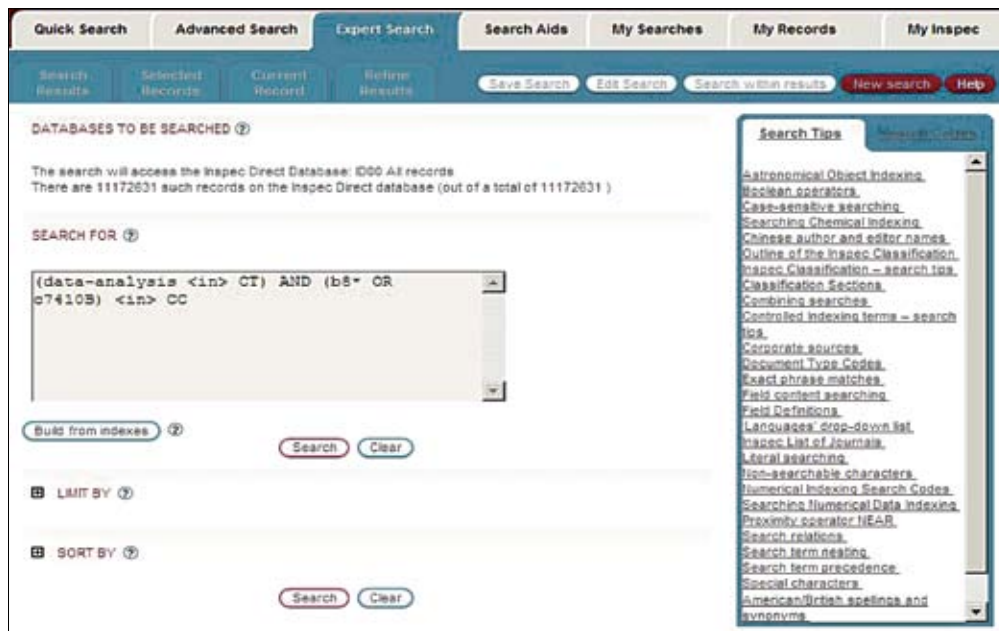
Search Results Selected Records Current Record Refine Results Save Search Edit Search Search within results New search Help

SEARCH FOR ⓘ

database management systems

Search Clear

Expert Search



Inspec Direct Expert Search page and Browse Index dialog box

Expert Search is the most powerful and flexible search option. Queries are constructed in a single dialogue box using the Inspec Direct command language. Searches can be easily restricted to particular time ranges or updates using the **'LIMIT BY'** pull-down menus, and search results can be sorted in various ways.

Build From Indexes

It is possible to construct your search string from the browsable indexes that are available, by clicking on the **'Build from Indexes'** button. Alternatively, you can type your search criteria directly into the box, e.g.:

(data-analysis <in> CT) AND (b8* OR c7410B) <in> CC

Here, 'CT' is the two-letter search code for 'Controlled Term' and CC is the code for 'Classification Code'. See page 19 for a full list of all the search codes.



Managing Your Search Results

Once you have created a set of results there is a variety of management options that you can use. Use the check boxes for selecting records that you wish to keep.

Display Formats

This drop-down box enables you to select the record format in which your search results are displayed. The record formats that are available are:

- Headline details only
- Brief bibliographic details
- Abstract plus bibliographic details
- Extended details (including classification and indexing)

Results per Page

This drop-down box enables you to select how many search results you want to be shown on each screen.

Save Records*

You need to be logged into your personal account to save records on the Inspec Direct server.

* You need to be logged into your personal account

Download

Enables you to save records on your own computer. The formats available are:

- Text
- PDF
- RIS
- RefWorks
- BibTeX

Print

Enables you to print records in any of the four display formats.

Email

Enables you to email records either to yourself or to others.

Analyse

Enables you to create charts, tables and/or download the data in CSV (comma-separated values) format.

Refine Results

Enables you to refine your search results using an exhaustive list of criteria.

Search History

All successful searches are stored in a Search History for the duration of your current session. You can:

- Display the search criteria for your previous searches
- Re-run searches
- Edit searches
- Save searches
- Create an alert

Sort By

You can sort your search results using various criteria e.g. relevance, publication date etc.

Data Analysis

Inspec Direct contains a sophisticated tool to allow two types of analysis of search results:

- Ranked list (e.g. the number of articles written by given authors)
- Two-field analysis (e.g. the number of articles per year per Classification Code)

Analysis results can be downloaded in CSV (comma-separated values) format for further evaluation.

By clicking on the **'Analyse'** icon which appears on the Search Results, Selected Records, Current Record and My Records/My Folders pages, you can analyse the list of record(s) that are displayed there.



Analyse Records screen

When you click on the **'Analyse'** icon, a dialogue box is displayed prompting you to make the following selections:

- **Vertical Axis.** Select the field required for the vertical axis
- **Horizontal Axis.**
 - **'None – Ranked List Only'**
 - **'Classification (Section)'**
 - **'Document type'**
 - **'Publication year'**
 - **'Treatment codes'**

- **Chart Type.** Choose a chart or a type

Click on the **"Create Report"** button to use the analysis results in a chosen chart type. From here you can:

'Download CSV'. Click on this button and a report is generated in CSV format, which you can download to your computer

'New Report'. Click on this button and the previous dialogue page is displayed so that you can create another report

'Create Chart'. Click on this button and a chart will be displayed showing the analysed results.



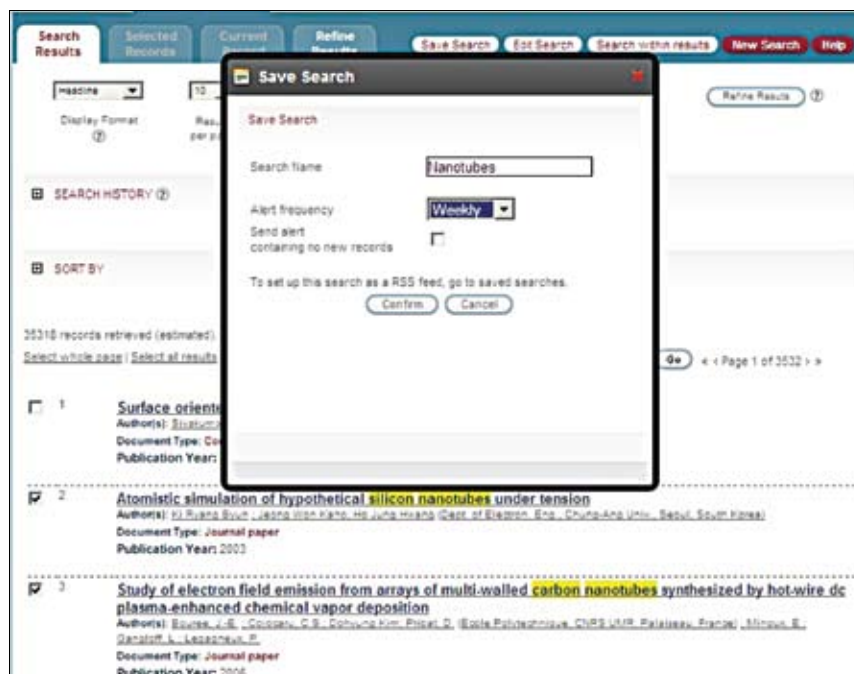
Example of Analysis results screen

* You need to be logged into your personal account

Creating Automated Alerts

You can keep yourself up to date by saving your search and sending new results to your email box once a week, as more records are added to the Inspec Database.

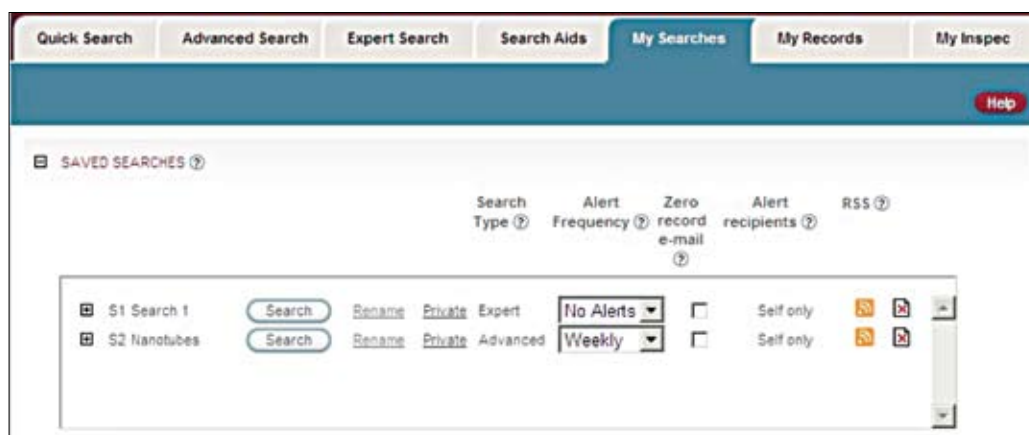
The **Alert Preferences** page allows you to view and maintain your email alert preferences and **Address Book**. See the **Personalisation** section of this guide for further information.



Inspec Direct Alert Preferences page

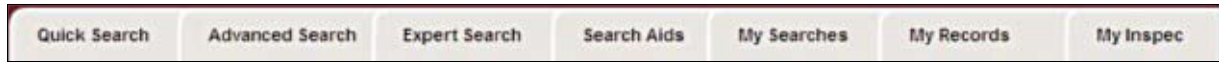
Setting up Searches for Alerts*

1. Click on the **'Save Search'** button.
2. A dialogue box will be displayed in which the name of the search can be changed to a search name of your choice.
3. Click on the **Alert Frequency** drop-down list to change the setting to weekly.
4. Click on the **'Confirm'** button to save the search. Alerts will normally only be sent to yourself.
5. To add further recipients:
Click on the **My Searches** tab.
Click on **Self only** in the **Alert Recipients** column of the search. A dialogue box lists the email addresses from the Address Book. You can add or remove recipients.



* You need to be logged on to your personal account

Personalisation



It is a good idea to log in and create your own user space – this gives access to a whole host of features. If you have not already set up a personal account you must register. Click on the **Register** link under the Login box on the Inspec Direct homepage. Once you login, the following tabs can be accessed from the top of any Inspec Direct page.

My Searches

Saved Searches

You may save a search by clicking on the **'Save Search'** button which appears on the Search Results, Selected Records, Current Records and Refine Results pages.

Shared Searches

This section is used to see which searches you and other users have made available to all users.

Search History

By default, a maximum of 25 searches will be displayed, although you can re-set this maximum to 10, 50 or 100 on the Search Preferences page.

Combine Searches

You may combine searches that are listed in My Searches using Boolean operators.

My Records

My Folders page

This page allows you to view and maintain the records previously saved to your folders.

Current Record page

This page is accessed when you click on a record on the My Folders page. The page allows you to view the details for a record which you have previously saved to your folders.

My Inspec

Personal Information page

This page allows you to view and maintain your Personal Information details, including:

- Your password
- Your email address

Search Preferences page

This page allows you to view and maintain your search page preferences, including:

- How many searches you wish to see in your **'Search History'** list
- The default settings for **'LIMIT BY'** and **'SORT BY'**

Alerts Preferences page

This page enables you to choose:

- Default alert setting when saving a new search. All options are given here
- The maximum number of records to send in an email alert
- To be alerted even if your search does not retrieve any new records

Address Book

This section of the **Alerts Preferences** page enables you to collaborate with your colleagues and to add or remove email addresses from the **'Address Book'**.

You can use the **'Address Book'** to maintain a list of email addresses which you wish to send alerts

A maximum of 20 email addresses may be entered into your **'Address Book'**

Display Preferences page

This page allows you to view and maintain your record display page preferences, including:

- How many records you wish to display on the Search Results page
- The default display formats for the Search Results page, the Selected Records page and the Current Record page
- The file format in which search results records should be exported
- Choosing the record display format in which search results records should be printed, emailed and exported.

Search Aids: Thesaurus

Inspec Direct Thesaurus Search Screen

Inspec Controlled Indexing Terms

Controlled terms are indexing terms that are applied to each document in the Inspec Database from a dynamic and evolving controlled vocabulary of over 10,000 scientific terms called the Inspec Thesaurus. These controlled terms provide accuracy and quality to search results.

The **Inspec Thesaurus** is thus a subject key to the Inspec Database. Each Inspec record is typically assigned several Controlled Indexing Terms. These are searchable in the Controlled Indexing Terms field.

From this page, it is possible to search for controlled terms. To find suitable terms, click on the **'Search Thesaurus'** tab under the Search Aids. Enter the term to be searched in the dialogue box. Once you have entered a search term in the box, you can then select whether to:

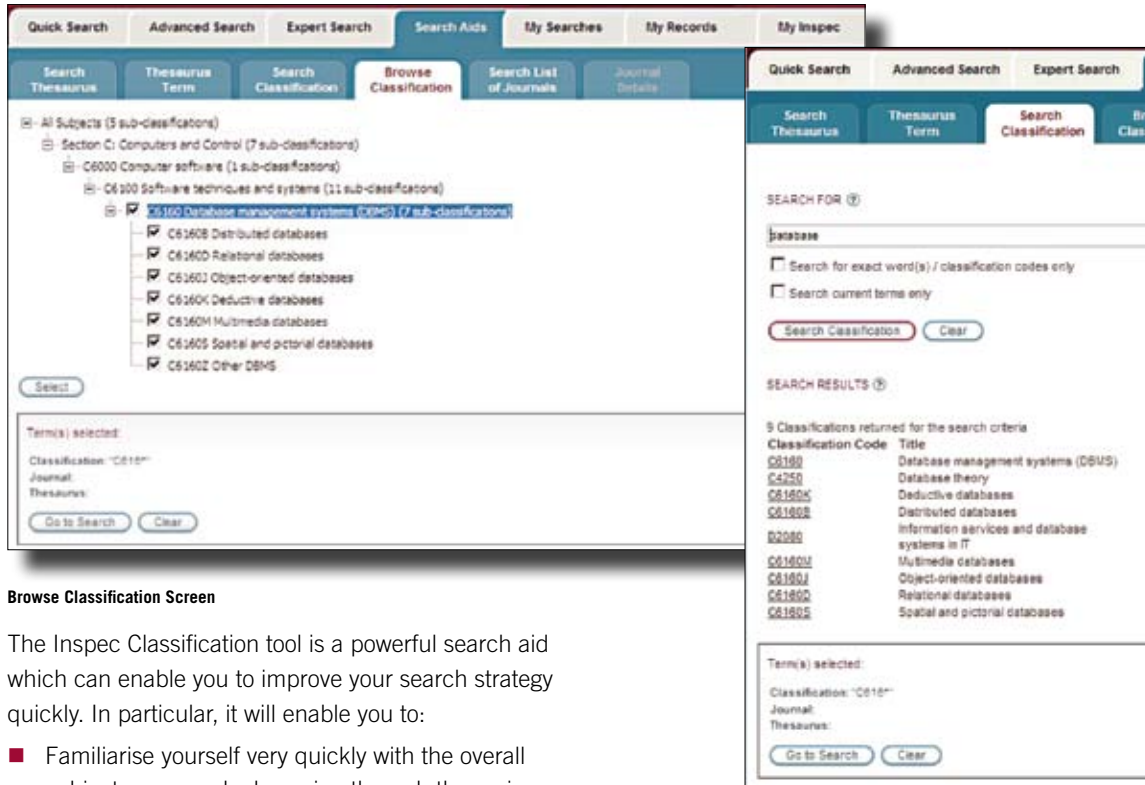
- Search the Thesaurus to produce a list of terms which contains both the entered search term and also any Controlled terms that describe similar aspects
- Limit the search indexing to produce a list containing the exact search term (tick the box - **'Search for exact word(s)'**)

- Limit the search to produce a list of terms that are actively used at present (tick the **'Search current terms only'** box)

Click on the **'Search Thesaurus'** button to begin your search.

- A list of terms is displayed under **Search Results**. Click on any of these to display details about that term and its associated terms. All such terms are hyperlinked, so you can click on them directly to navigate around the Thesaurus.
- When you have found a term relevant to your search, click on the **'Select'** button.
- When you have selected all the terms required for your search, click on **'Go to search'**. The selected terms are automatically entered into the **'SEARCH FOR'** text box.
- You may then edit the contents of the text box (e.g. by changing the default **OR** to **AND**), and then click on the **'Search'** button to search for Inspec records containing your selected Controlled Indexing terms.

Search Aids: Classification



Browse Classification Screen

The Inspec Classification tool is a powerful search aid which can enable you to improve your search strategy quickly. In particular, it will enable you to:

- Familiarise yourself very quickly with the overall subject coverage by browsing through the main subject areas
- Pinpoint your areas of interest by browsing through any of the sub-sections
- Identify Classification Codes of interest to you by searching for keywords within the Classification heading

The **Inspec Classification** is divided into five sections. Codes begin with **A**, **B**, **C**, **D** and **E**, where:

- A** = Physics
- B** = Electrical Engineering and Electronics
- C** = Computers and Control Engineering
- D** = Information Technology
- E** = Mechanical and Production Engineering

At least one **Classification Code** is assigned to the main subject matter of each record, and additional codes may be assigned for subsidiary subjects. Codes are always assigned to the most specific level possible and can be assigned from one or more of the five sections of the Inspec Database.

Browsing the Classification

- To browse the Classification scheme (by homing in on your area of interest via sub-sections), click on the **'Browse Classification'** tab under Search Aids, then on one of the + toggles to expand the database section in which you are interested.

Classification Search Screen

- Keep expanding the hierarchy in this way until you reach the code(s) you are interested in.
- Tick the boxes next to those codes you wish to search for and then click on the **'Select'** button. This will enter the codes you have selected into the **'Term(s) selected'** box below.
- Finally, click on the **'Go to Search'** button to run the search.

Searching the Classification

To search for specific Classification Codes, click on the **'Search Classification'** tab and enter a search term (i.e. a word or phrase from the Classification headings) into the text box.

For example, entering the word **'database'** into the **'SEARCH FOR'** box will show all the Classification Codes that contain this word in the Classification heading.

Search Aids: List of Journals

The screenshot displays the 'Search List of Journals' interface. At the top, there are navigation tabs: Search Thesaurus, Thesaurus Term, Search Classification, Browse Classification, Search List of Journals (selected), and Journal Details. Below the tabs, there are search input fields for 'Global Word Search' (containing 'NASA') and 'SEARCH JOURNALS FOR'. There are four rows of search criteria, each with a dropdown menu labeled 'AID' and a corresponding input field: 'Journal title', 'Publisher', 'ISSN', and 'Language'. Below these are two checkboxes: 'Current journals only' and 'Journals abstracted completely only'. There are 'Search Journals' and 'Clear' buttons. The 'SEARCH RESULTS' section shows '2 Journals returned for the search criteria'. The results are presented in a table with two rows:

Proceedings of the National Academy of Sciences of the United States of America	2101 Constitution Avenue, Washington, DC 20418	0027-8424	PIIAS46
NASA Tech Briefs	NASA Technology Utilization Program, Technology Transfer Division, P.O. Box 8757, Baltimore/Washington International Airport, MD 21240	0896-7491	IIATB06

At the bottom, there is a 'Term(s) selected:' section with 'Classification: Journal: Thesaurus:' and 'Go to Search' and 'Clear' buttons.

Journals Search Screen

The **Inspec List of Journals** contains a list of all the journals scanned from 1969 onwards for inclusion in the Inspec Database.

The **Search List of Journals** has great functionality. You can search the database to find such things as:

- Journals currently covered by Inspec
- Journals abstracted completely by Inspec
- The coverage time span of journals previously scanned
- Former titles of journals
- The language in which articles are published
- The country of publication
- Publisher contact details

The **Search List of Journals** has a choice of the following searchable fields:

Global Word Search: Searches all fields of the Journals database.

Country of publication: Contains the country in which the journal is published.

CODEN: Contains the CODENs, where they exist, for all journals covered by Inspec.

ISSN: Contains the International Standard Serial Numbers, where they exist, for journals covered by Inspec.

Journal title: This field includes all current titles and also titles no longer covered by Inspec.

Language: Indicates the language in which journal articles and/or article summaries are written.

Publisher: Contains the publisher name for each journal.

URL: Contains the journal URL (Uniform Resource Locator) for electronic journals on the World Wide Web.

Enter the term in the appropriate search box and click **'Search Journals'**. Clicking on any journal titles that are displayed in the list of Search Results on the **Search List of Journals** page to view details for that particular journal, including the journal's status (i.e. whether the journal is currently covered by Inspec), and the publisher.

Specialised Indexing

Inspec's **Specialised Indexing** fields are designed to overcome problems associated with searching Chemical, Numerical and Astronomical data contained in the database. They are available in both Advanced Search and Expert Search. All search examples below are carried out using Advanced Search.

Chemical Indexing

Search for chemical information in fields as diverse as semiconductors, battery technology and medical devices etc. Inspec's unique **Chemical Indexing** allows you to effectively search for this information by using chemical formula and optional roles.

Use element **el**, binary **bin** and system **ss** roles to specifically search for elements, compounds and blends.

Use interface system **int**, surface or substrate **sur**, adsorbate **ads** and dopant **dop** roles to search for substances with a specific function in solid state physics.

To search using chemical indexing select Chemical Indexing from the drop down menu of search fields;

Enter the chemical formula you wish to search, optionally with roles; and click on '**Search**'.

Example

Find records where elemental Silicon plays an important role.

- Enter **Si/el** in the search box.

Find records where Aluminium Gallium Nitride plays an important role.

- Enter **AlGaN/ss** in the search box

Find records where the element Erbium is used as a doping agent.

- Enter **Er/el AND Er/dop** in the search box

Numerical Data Indexing

Inspec's numerical data Indexing allows you to search effectively for numerical data independently of the author's own description. This overcomes problems that result from the variety of ways in which authors may express particular values, quantities and units. Examples of these problems include; temperature, which may be expressed in units of Kelvin, Fahrenheit, degrees centigrade etc.; and power output, which may be expressed in mW, W, KW, MW etc.

Inspec's **Numerical Data Indexing** standardises the values and units that a range of quantities are expressed in so that accurate retrieval of this type of information can be achieved.

To search numerical data indexing, select 'Numerical Data Indexing' from the drop down menu of search fields. From the additional drop down menus that appear, select the quantity to be searched (e.g. Power) along with the units of measurement to be used (e.g. Watts). Enter the desired range of values; and Click on '**Search**'.

Example

Find references to power stations generating between 20 and 30 MW.

- Select 'Power' and 'Watts (W)' from the drop-down menu.
- Enter **20000000** in the '**From**' box and **30000000** in the '**To**' box.
- Click on '**Search**'.

Astronomical Object Indexing

Search for named or numbered astronomical objects from outside the solar system using Inspec's **Astronomical Object Indexing**. A searchable index is available.

Designations are of the following types:

- **Name-based acronyms.** For example, **LMC** is an acronym for the Large Magellanic Cloud. Objects in constellations, such as **R Sct** appear with the **IAU-approved** three-letter abbreviation for the constellation
- **Catalogue-based acronyms.** A designation containing an acronym for the catalogue followed by the catalogue entry number
- Positional information only. For example, **013022+30233**

To search Astronomical Object Indexing, select 'Astronomical Object Indexing' from the drop down menu of search fields. Enter a designation in the search box. Click on '**Browse Index**' and select entries from the list of terms displayed. Click on '**Go to Search**' to return to search page.

Example

Find records containing information specific to the binary star system Algol.

Algol has several catalogue designations **Beta Per**, **HIC 14576**, **HD19356** etc. For completeness it is necessary to search all of these.

1. Click on '**Browse index**'.
2. Enter HIC in the text box and click '**Browse**'
3. Select **HIC14576** from the list and repeat 2 for the other catalogue designations.
4. Once all the desired terms are selected, click on '**Go to Search**' to return to the Advanced Search page and click on '**Search**'.

Further Information

For further information on Inspec's Specialised Indexing fields, see www.theiet.org/publishing/inspec/support



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Fixed-point error analysis of CORDIC arith

Author(s): [Tze-Yun Sung](#) (Chung Hua Univ., Hsinchu, T.)
Journal: [IEICE Transactions on Fundamentals of Electro](#)
Publication Date: Sept. 2007
Publisher: [IEICE](#), Japan
ISSN: 0918-8508
JIN: FF47
CODEN: IFESEX
Full text: [doi link](#)
Language: English
Abstract: CORDIC (coordinate rotation digital computer elementary functions). Thus, CORDIC is suitable for the c analysis of the computation error of both the (conventio is derived to facilitate the design task. The resulting form

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In any record, simply click on the **link** in full text and you will be taken to the full document. (DOI refers to the **Digital Object Identifier** that is used to retrieve the full-text document).

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