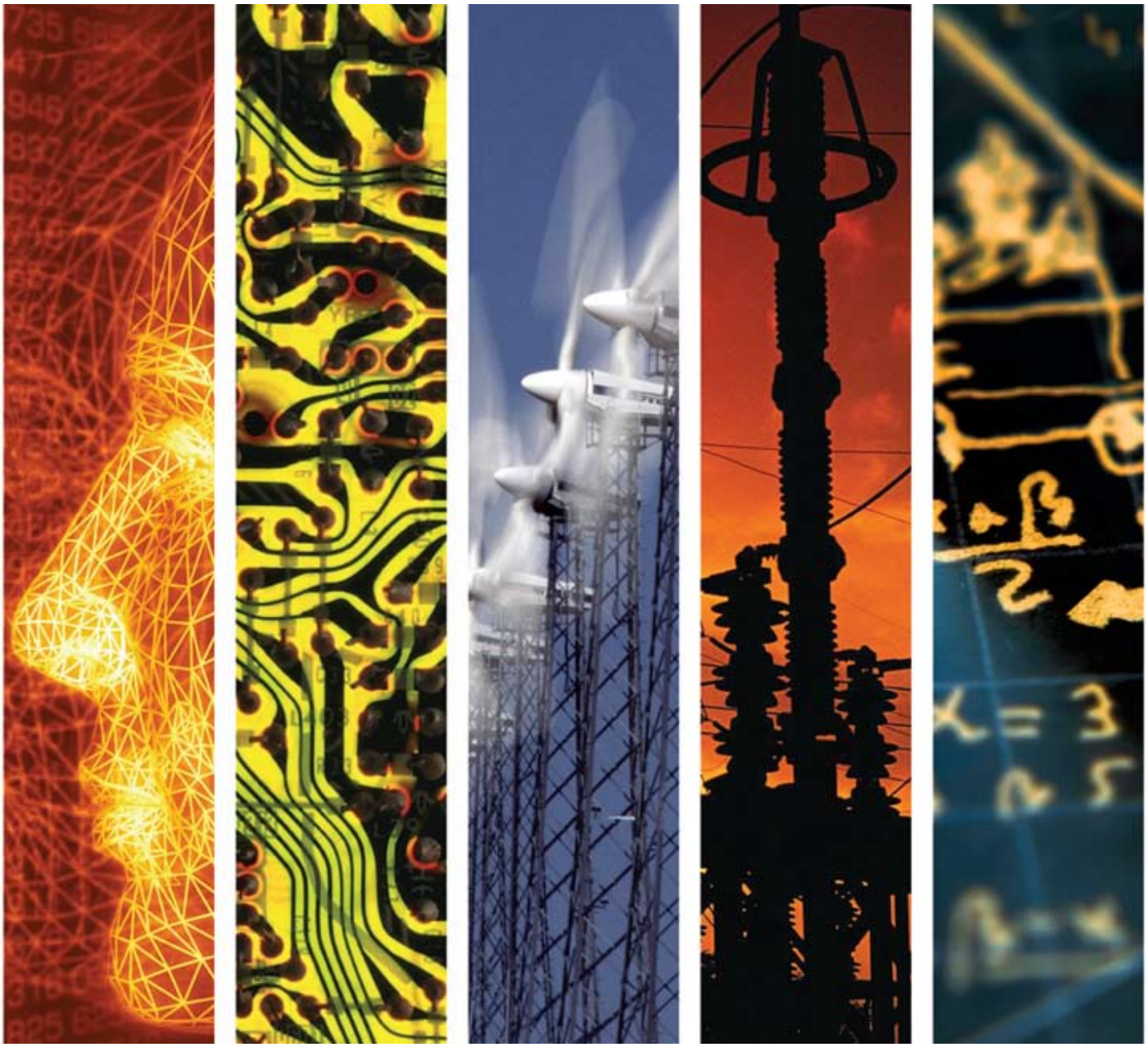
IET Inspec

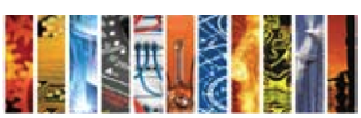
EBSCO HOST

User Guide
EBSCOhost



www.**theiet**.org/inspec

Inspec on EBSCOhost — User Notes



Inspec Database Overview

Inspec is the world's leading English-language information service providing access to the world's scientific and technical literature in *physics, electrical engineering, electronics, communications, control engineering, computing, information technology,* and *manufacturing and production engineering*. In addition to providing a comprehensive index to the literature from these disciplines, Inspec also has significant coverage in interdisciplinary areas such as *materials science, oceanography, nuclear engineering, geophysics, biomedical engineering* and *biophysics*.

The Inspec Database, which lies at the centre of this service, dates back to 1969, with over 5000 scientific and technical journals (online, print and open access) and more than 3000 conference proceedings and other publications, scanned each year. The Database contains over 11 million bibliographic records, as of March 2010, and is growing at the rate of approximately 675,000 records each year.

Each record in the Inspec database contains an English-language title and descriptive abstract, together with full bibliographic details which include the journal or other publication title, the author's name and affiliation and the language of the original document. All of these may be searched, as well as Inspec's extensive range of subject classification and indexing systems, which are recognised as the standard of excellence in search aids throughout the industry. These include controlled index terms from the Inspec Thesaurus, numerical data indexing, chemical substance indexing and astronomical object indexing.

Full text linking is possible via Digital Object Identifiers (DOIs), which are present in 80% of current Inspec journal records.

Inspec is a continuation of *Science Abstracts* first published by the Institution of Electrical Engineers in 1898. The Inspec Archive complements the main Inspec Database by extending coverage from 1898-1968. It represents the digitised version of the original *Science Abstracts* series and contains over 873,700 indexed abstracts to journal articles, conference proceedings, books, reports and dissertations. The abstracts often contain diagrams and complex mathematical proofs. The original indexing and classifications are supplemented by current day Inspec Thesaurus terms and Classification codes.

The Inspec Database can satisfy all your research needs. It can be used for:

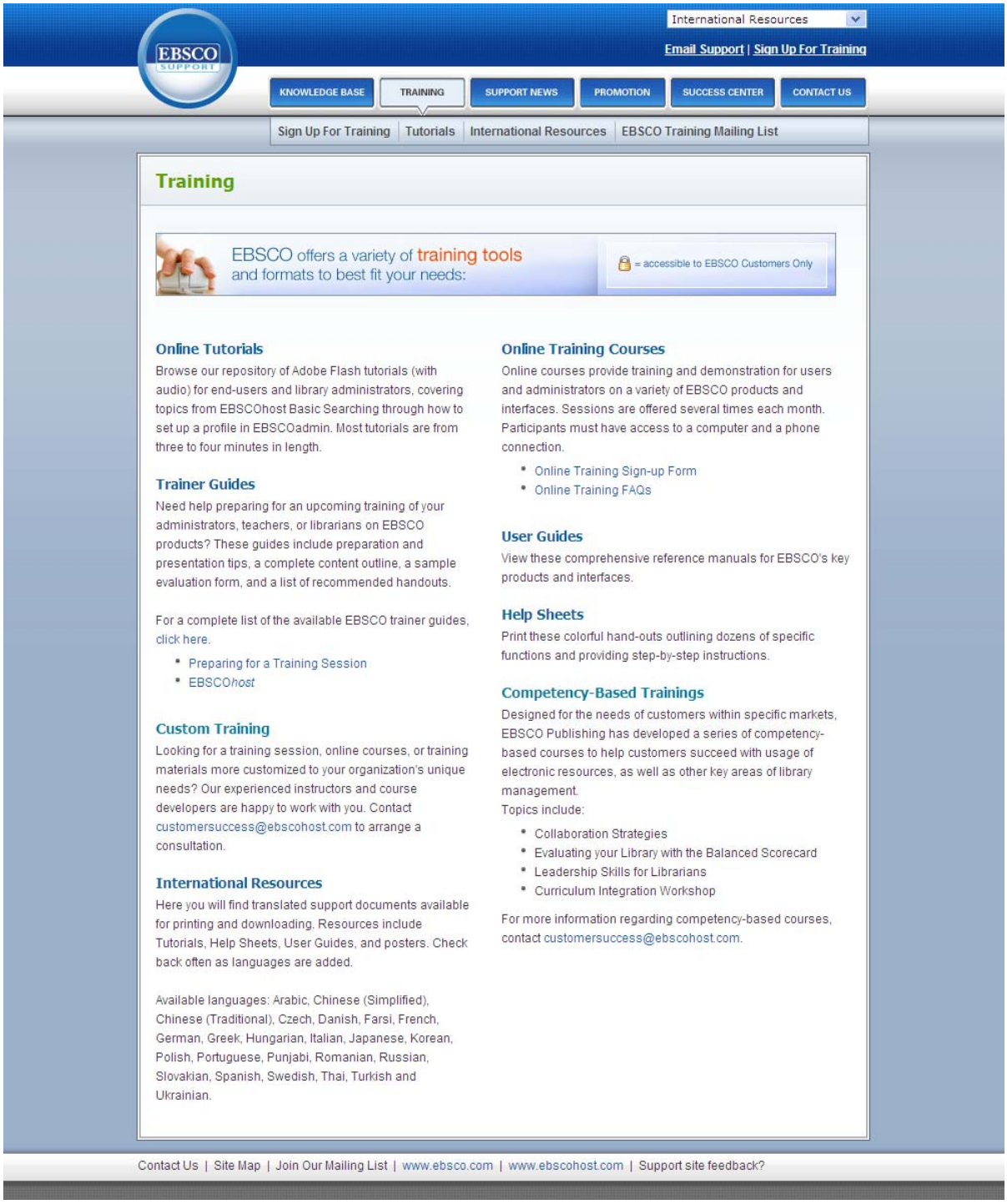
- current awareness
- new product information
- technological forecasting
- competitive intelligence
- patent-related searching

EBSCOhost® Service Overview

EBSCO Publishing offers a broad range of full text and bibliographic databases designed to meet the reference needs of all library types worldwide. EBSCO has designed its search interfaces to seamlessly interact with other electronic resources held in a library's collection -- effectively creating a one-stop research environment.

The EBSCOhost® Support

A comprehensive range of support services is available on http://support.ebsco.com/training/index.php as you can see below:

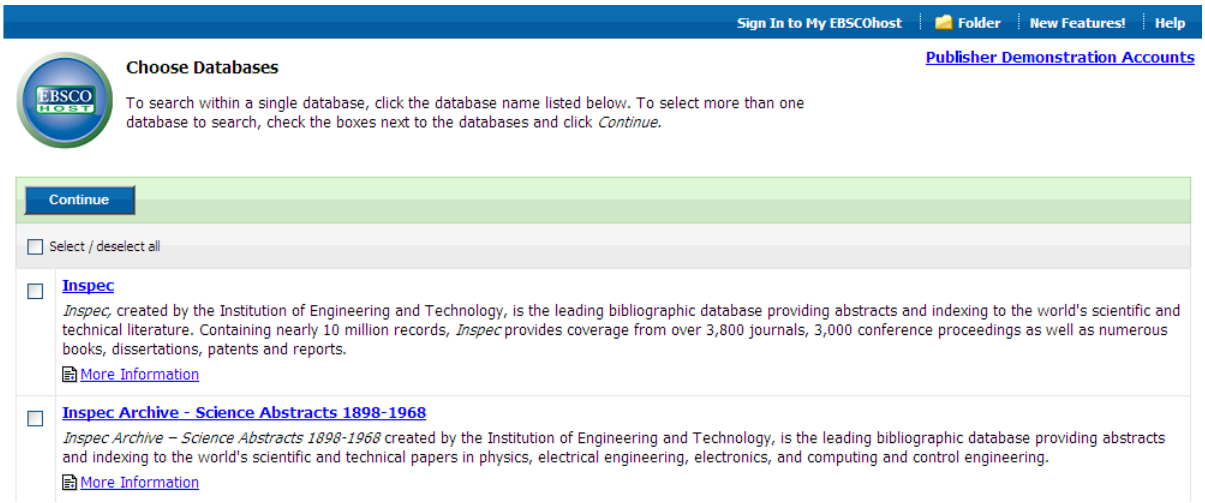


Inspec on EBSCOhost® Implementation

Logging On

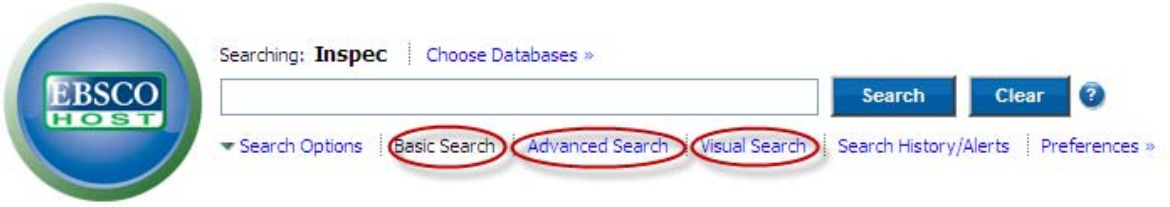
The EBSCO*host* login page may be found at http://search.ebscohost.com

Choose the database(s) you wish to search from the list of databases available to you:



Search Screens

There are three Search Screens available on EBSCO*host* which you can select using the links at the top of each page, e.g.



1. **Basic Search** (p.6)

- For casual users and novices
- Ideal for simple searches
- Additional *Search Options* available via a toggle link at the top of the page
- A limited range of search refinement features is available
- *Search History* and *Alerts* are available via links at the top of the page

2. **Visual Search** (p.8)

- For casual users and novices
- Similar search and refinement functionality to Basic Search
- User can view results in an interactive, visual map
- Results may be grouped by subject or by publication title
- *Search History* and *Alerts* are available via links at the top of the page

3. Advanced Search (p.10)

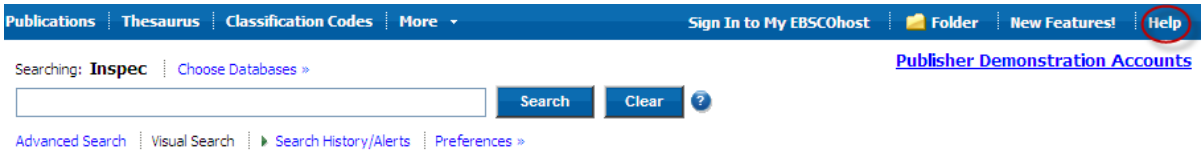
- For frequent searchers and professional users
- More precise searching is possible
- A wide range of search refinement features is available
- *Search History* and *Alerts* are available via links at the top of the page

EBSCO*host* allows you to transfer between search screens very easily at any time during your search by clicking one of the search links.

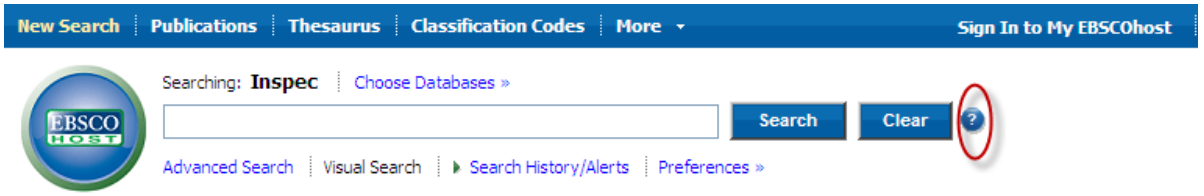
The *Search History/Alerts* option is the same for all search types and is described on p.14.

Help

Help on EBSCO*host* is always available. You can click the Help link at the right hand top corner of the screen and this will guide you to the Contents or Index of a detailed EBSCO*host* Help.

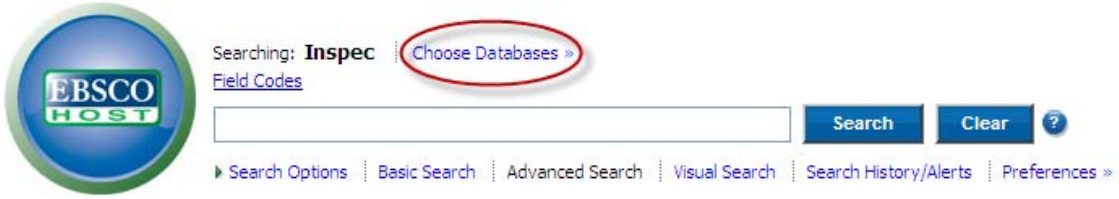


Additionally, you can click the'**?'** to find detailed contextual help for each screen, e.g.

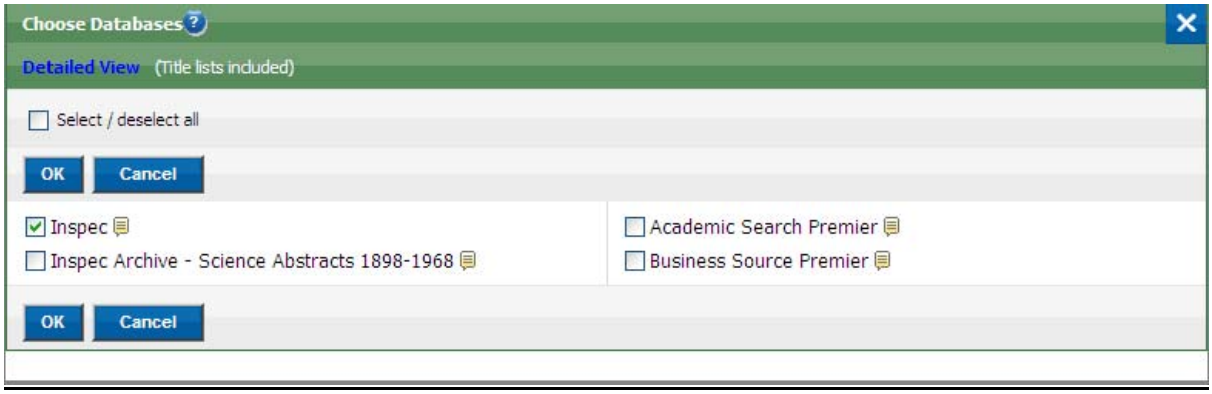


Switching between databases

You can change your database selection by clicking on the *Choose Databases* hyperlink:



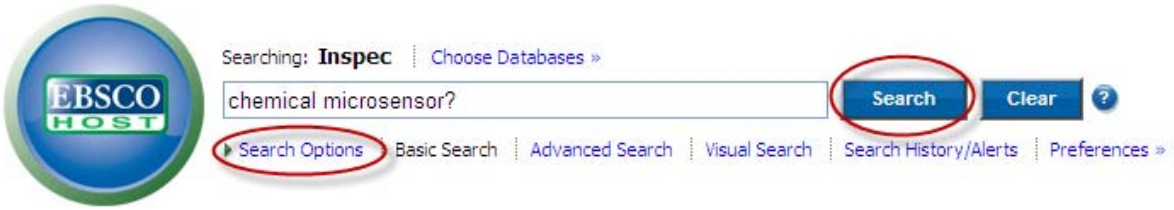
You will be presented with a list of the databases to which you have access:



Basic Search

The *Basic Search* link will navigate you to the default *Basic Search* screen.

Type your keyword(s) into the search box and click the ***Search*** button.



To add other concepts use the *Search Options* link; this will enable you to change the scope of your search by using alternative search modes, including related words (such as alternate spellings and plurals), or by searching within the full text of the articles as well as the reference and abstract. You will also be able to limit your search by Date, Publication Type, Source or Country of Publication. If you prefer, you can also limit your search to abstracts which are linked to the Full Text.

Basic Search Tools:

Search Modes - 4 options are available (defined by your library administrator):

Boolean/Phrase – For Boolean searching (using AND/OR logic) or exact phrase searching

Find all of my search terms – *All* search terms must be present (Boolean AND).

Find any of my search terms – *At least one* search term should be present (Boolean OR).

SmartText Searching – Allows you to copy and paste chunks of text (up to 5000 characters). EBSCO*host* identifies the most relevant search terms algorithmically and conducts the search.

Proximity - You can use a *proximity search* to perform a Keyword or Boolean search for two or more words that occur within a specified number of words (or fewer) of each other

W# means within #words e.g. asteroid W5 probe
N# means within #words (in either direction) e.g. asteroid N5 probe

Wildcards and truncation are used to search for multiple spellings or endings. They can be used anywhere except as the first character.

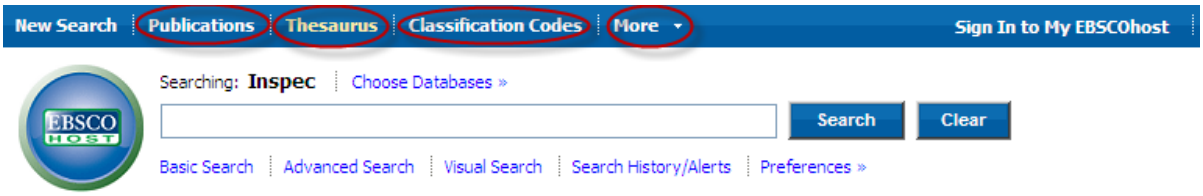
Wildcard **'?'** is used to replace each unknown character, e.g. **electroly?e** finds the words electrolyze, electrolyse and electrolyte.
'#' allows for an optional additional character, e.g. **colo#r** finds both color and colour.

Truncation **'*'** is used to allow for alternative word endings, e.g. **comput*** finds the words computer or computing

Plurals EBSCO*host* searches automatically for plural and possessive forms of a **singular** word, but **not** for singular variations of a term entered as a plural.

Basic Search – specific fields

In addition to the search options shown above, you can also select buttons at the top of the screen to search specific information fields:



- ***Publications, Thesaurus*** and ***Classification Codes*** buttons will transfer you to these individual fields, where you can browse them or search them as appropriate
- ***More*** button will allow you to select from a wide range of specific fields (also known as **indexes**) which you can browse and/or search

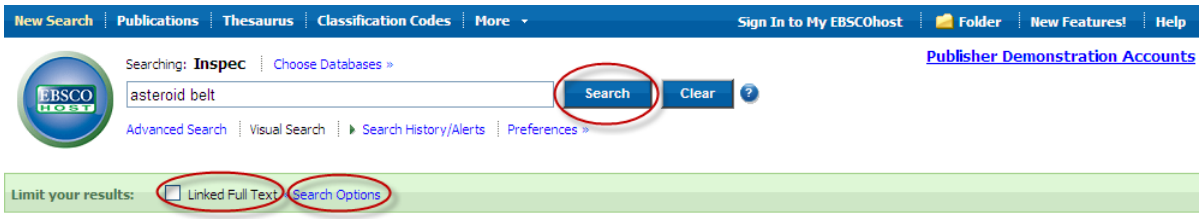
The search features of the individual fields are identical to those available in the *Advanced Search* screen and are explained on p.11.

Visual Search

The *Visual Search* link will navigate you to the default *Visual Search* screen.

An onscreen demo of the features of *Visual Search* runs continually, but you may start a search at any time.

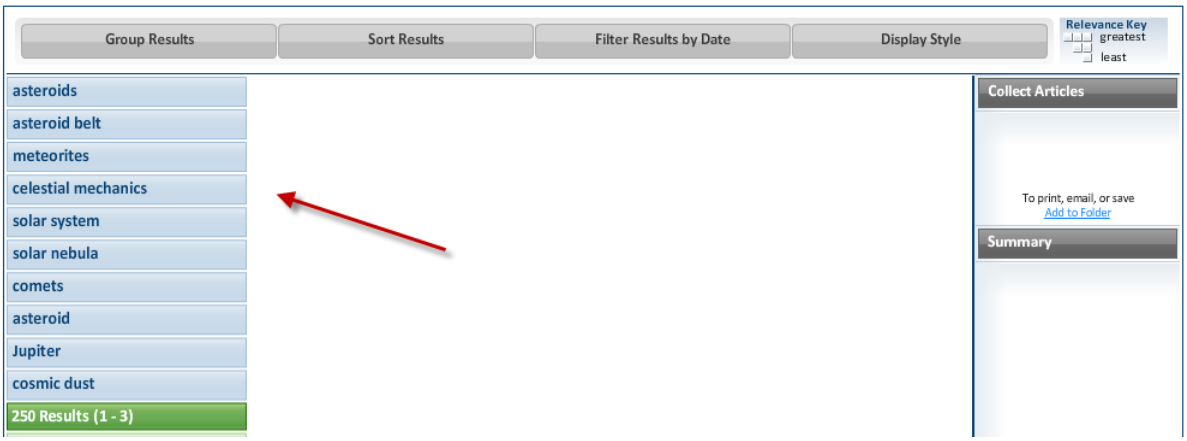
Type your keyword(s) into the search box and click the ***Search*** button.



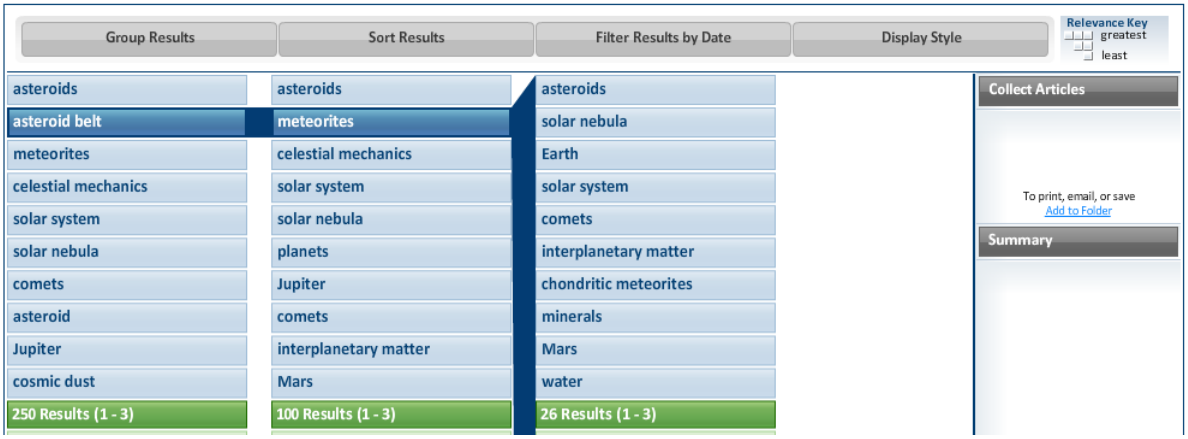
If you prefer, you can check a box to limit your search to records which are linked to the Full Text.

To add other concepts, use the *Search Options* link which will take you to the *Search Options* screen described under *Basic Search*. This will enable you to change the scope of your search by using alternative search modes, including related words (such as alternate spellings and plurals), or by searching within the full text of the articles as well as the reference and abstract. You will also be able to limit your search by Date, Publication Type, Source or Country of Publication.

The top 250 most recent results are displayed graphically in columns, grouped by subject:



In this view, it is possible to narrow results successively by clicking on a subject (or publication) name:

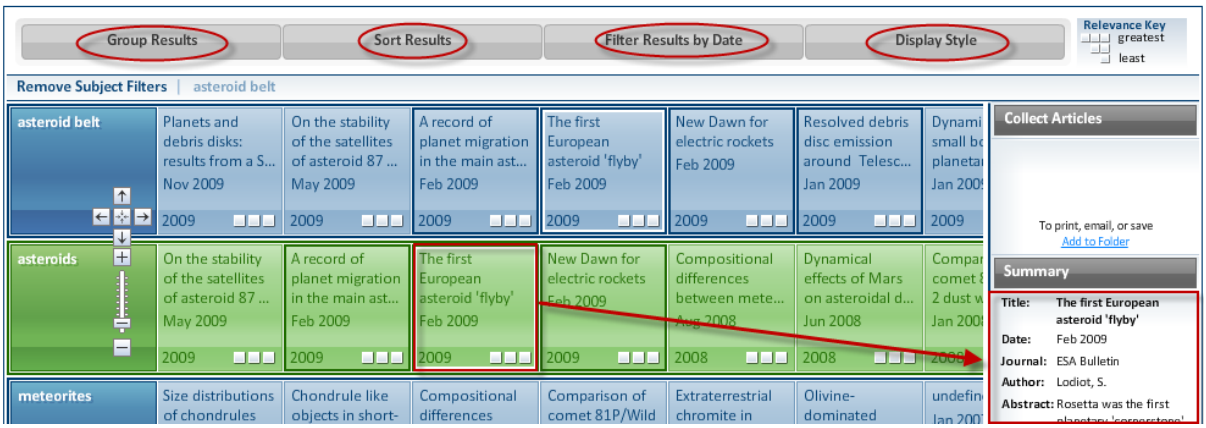


Visual Search Results Sorting and Viewing Options

To see different ways to group, sort, or filter your search, click any of the buttons above the Result List. You can select these options at any time – before you run your search, or after, when you are viewing your results.

- **Group Results** – You can group by Subject or by Publication Name.
- **Sort Results** – You can sort the results by Date (newest to oldest), or by Relevance
- **Filter Results by Date** – Move the Date Range slider to select the desired date range
- **Display Style** – Switch between the Column View (in which results can easily be narrowed interactively) and Blocks view (in which snapshots of records can easily be viewed) any time

The *Visual Search* Blocks view, highlighting the Options and Summary features, is shown below:



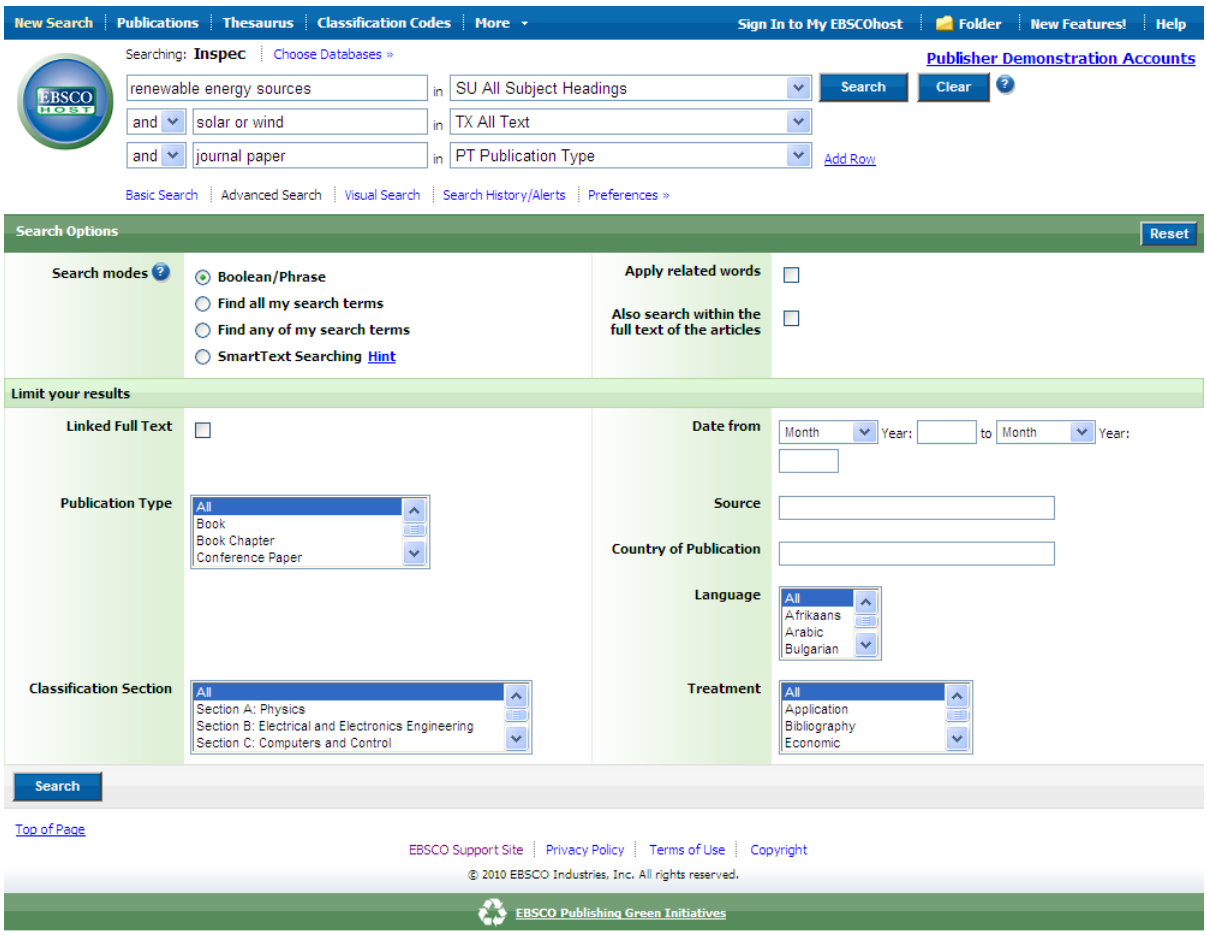
To view the reference, click the article title inside the result. The Summary window displays more information about the article, including Title, Author, Journal Name, and a brief abstract, as shown.

To view the full text of the article (if available), click the *More* link at the bottom of the record. The Summary window will expand to display the full article.

The *Search History/Alerts* option is the same for all search types and is described on p.14.

Advanced Search

The *Advanced Search* link will navigate you to the *Advanced Search* screen.



The majority of EBSCO*host* search functionality is available with all three search types. However, *Advanced Search* has three main advantages:

- Three search boxes enable you to make your initial search more accurately. Each search concept can be made in a different search field (selected from drop-down menus on the right hand side of the search boxes). The search concepts can be easily combined using the Boolean logic (via drop-down menu on the left hand side of the search boxes).
- Additional search options are visible by default, without needing to click on a separate link
- A wider range of Limiters (additionally including Classification, Language and Treatment) enables further refinement of search results

Advanced Search Tools

Search Modes - 4 options are available (defined by your library administrator):

Boolean/Phrase – For Boolean searching (using AND/OR logic) or exact phrase searching
Find all of my search terms – *All* search terms must be present (Boolean AND).
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SmartText Searching – Allows you to copy and paste chunks of text (up to 5000 characters). EBSCO*host* identifies the most relevant search terms algorithmically and conducts the search.

Boolean Logic can be applied via drop-down menus or within individual search boxes.

Proximity - You can use a *proximity search* to perform a Keyword or Boolean search for two or more words that occur within a specified number of words (or fewer) of each other

W# means within #words e.g. asteroid W5 probe
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Wildcards and truncation are used to search for multiple spellings or endings. They can be used anywhere except as the first character.

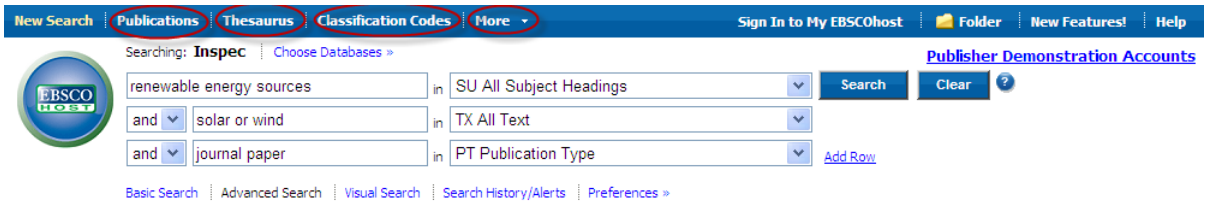
Wildcard **'?'** is used to replace each unknown character, e.g. **electroly?e** finds the words electrolyze, electrolyse and electrolyte.
'#' allows for an optional additional character, e.g. **colo#r** finds both color and colour.

Truncation **'*'** is used to allow for alternative word endings, e.g. **comput*** finds the words computer or computing

Plurals EBSCO*host* searches automatically for plural and possessive forms of a **singular** word, but **not** for singular variations of a term entered as a plural.

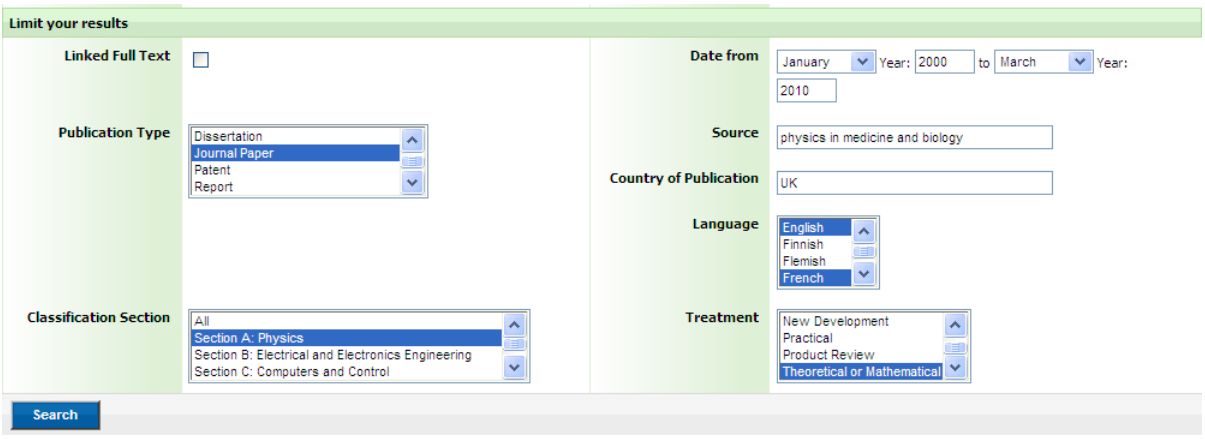
Advanced Search – Specific fields

In addition to the search options shown on p.10, you can also select buttons at the top of the screen to search specific information fields:



- ***Publications*** Journals covered by the Inspec Database can be browsed and/or searched
- ***Thesaurus*** Finds additional/more accurate search terms (p.18)
- ***Classification Codes*** The codes can be browsed, expanded from very general to the most detailed level and searched at any level (p.20)
- ***More*** A wide range of specific fields (**indexes**) can be browsed or searched (p.14)

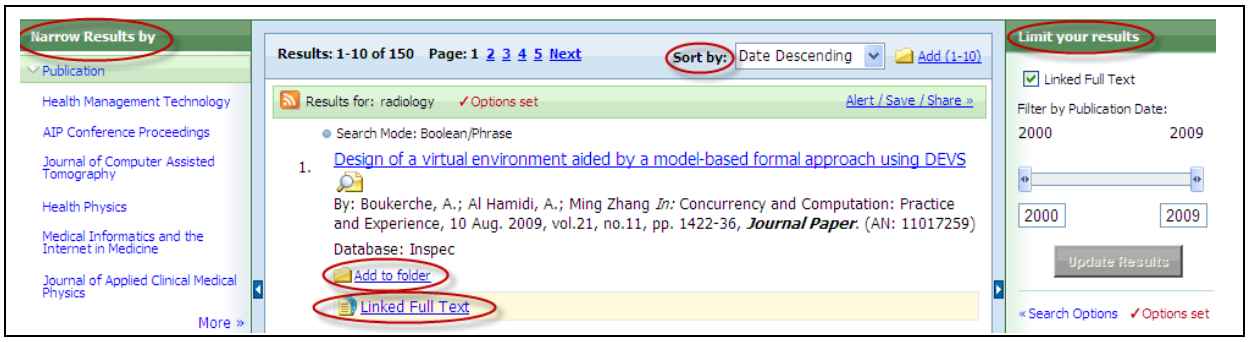
Advanced Search Limiting Options



The Source field is for limiting results by all or part of the name of a journal of interest.

Search Results

Your search results will appear by default in a **Results List Screen** and will be sorted by Publication Date as a default. Use the drop-down **Sort by:** menu to change this if you would like to sort the list by another parameter (Author, Source or Relevance).



The Result List Screen has three columns—'**Narrow Results by'**, '**All Results'**, and '**Limit your results'**. You can hide or show the different areas by clicking the control arrows near the top of your results.

You can narrow your results to a specific topic (in this case, Publication) by clicking one of the links in the box on the left hand side of the screen. Your library administrator decides which topic appears in the '**Narrow Results by**' area.

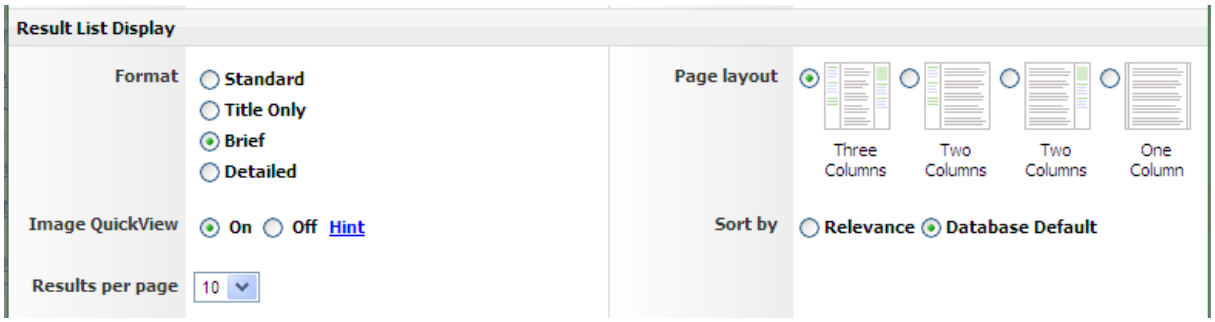
You can also **'Limit your results'** by Publication Date using the slider in the box on the right hand side of the screen.

The articles that were found are displayed in the centre of the **Result List** Screen.

- The **Title** link takes you to the reference information and/or the full text. Place your mouse over the **Preview** icon to view the Abstract.
- The **HTML Full Text** link takes you directly to the full text of the article (provided the appropriate subscription is in force). You can restrict your results to such records by ticking the box above the **Filter by Publication** *Date* slider.
- The **PDF Full Text** link takes you to a PDF version of the full text. The PDF will open in the Adobe ® Reader®.

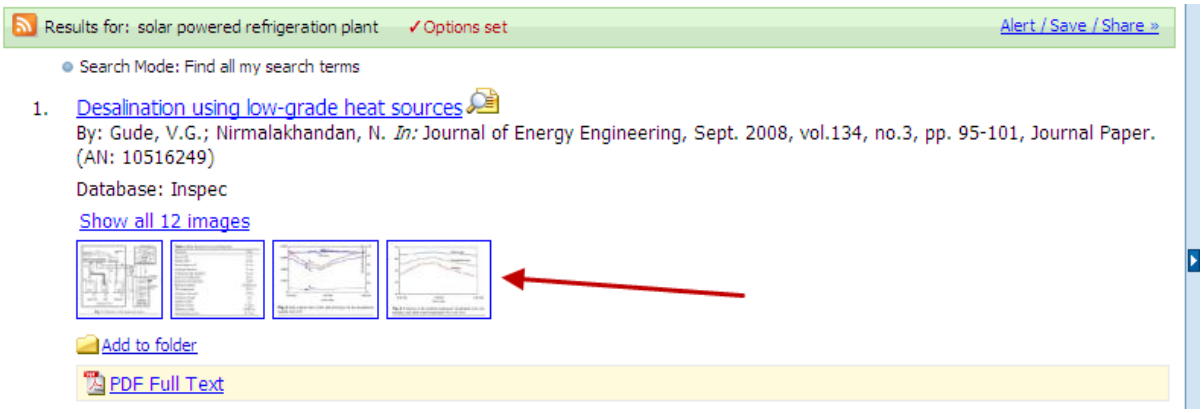
To print, e-mail or save search results, you should add them to the **folder** by clicking the link below the summary record in the **Result List**. You can add the entire page of records by clicking the link in the top right hand corner of the **Result List.**

The format of the **Results** can be altered via **Preferences** as shown below.

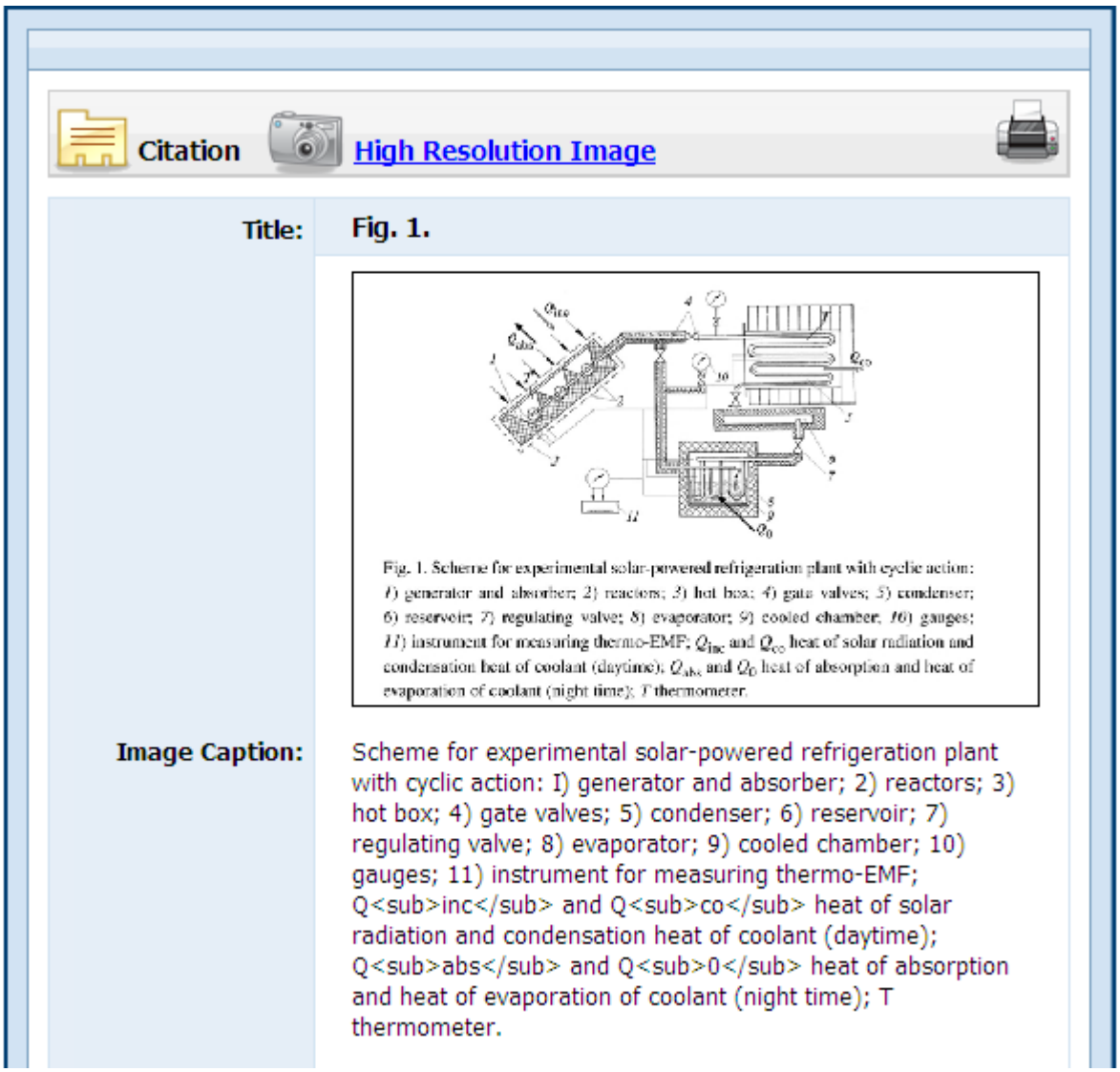


Thumbnail Images

Where a publication contains images, *EBSCO Integrated Search* subscribers can view thumbnails of the images from the EBSCO*host* Result List, Citation View, or the Folder, e.g:

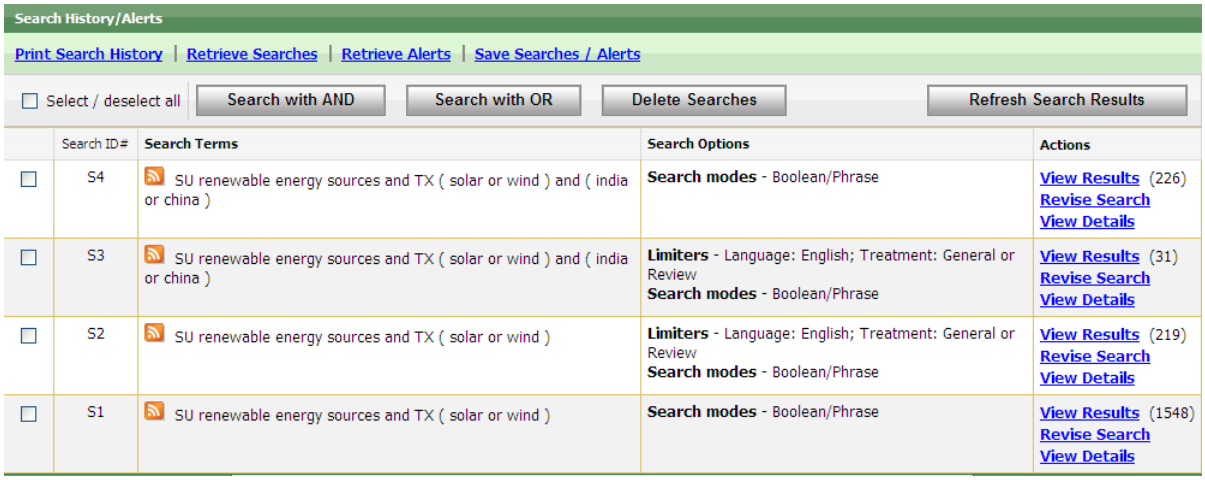


To view an image, click on the thumbnail from the Result List or the article Citation View:



Search History

Search History is an important search and navigation tool. It allows you to review your current search strategy and to gradually build complex searches using the *Revise Search* links.



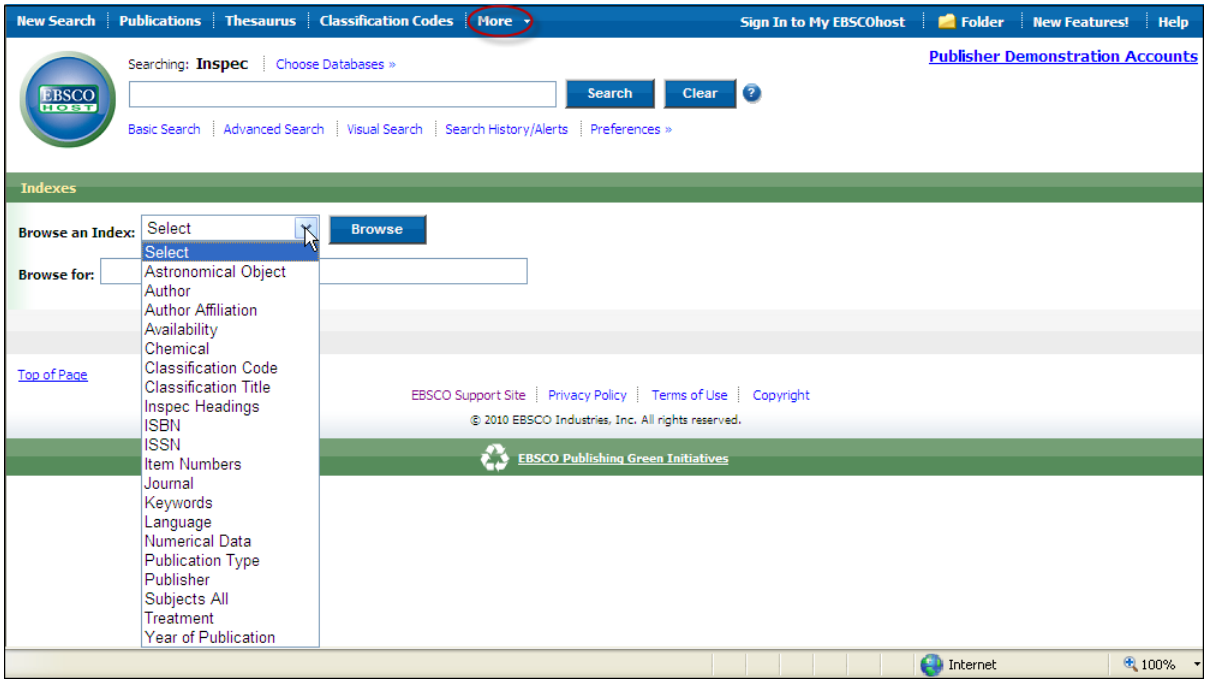
You can combine the various search steps by clicking on the appropriate 'Search ID' box and clicking the Search with AND or Search with OR buttons.

Click on  to create an alert for a search set. Please note that you need to set up a personalised account (**My EBSCO*host***) in order to save individual search results, search histories and set up email alerts. For details, refer to EBSCO*host* Help for 'Personal Account'.

The *Search History/Alerts* link is available in all three search screens.

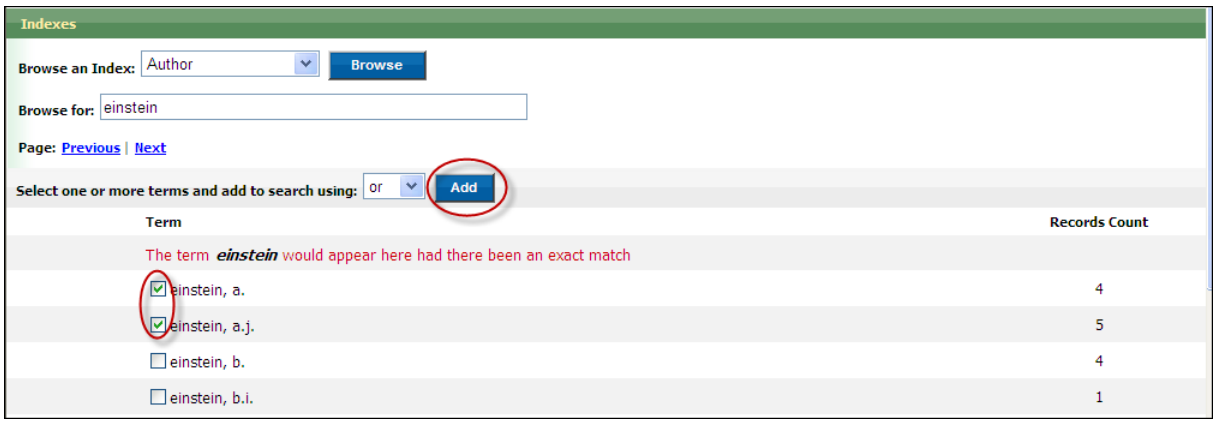
Indexes

Clicking the **More…Indexes** button allows you to search one of a number of fields that you can browse and/or search individually:

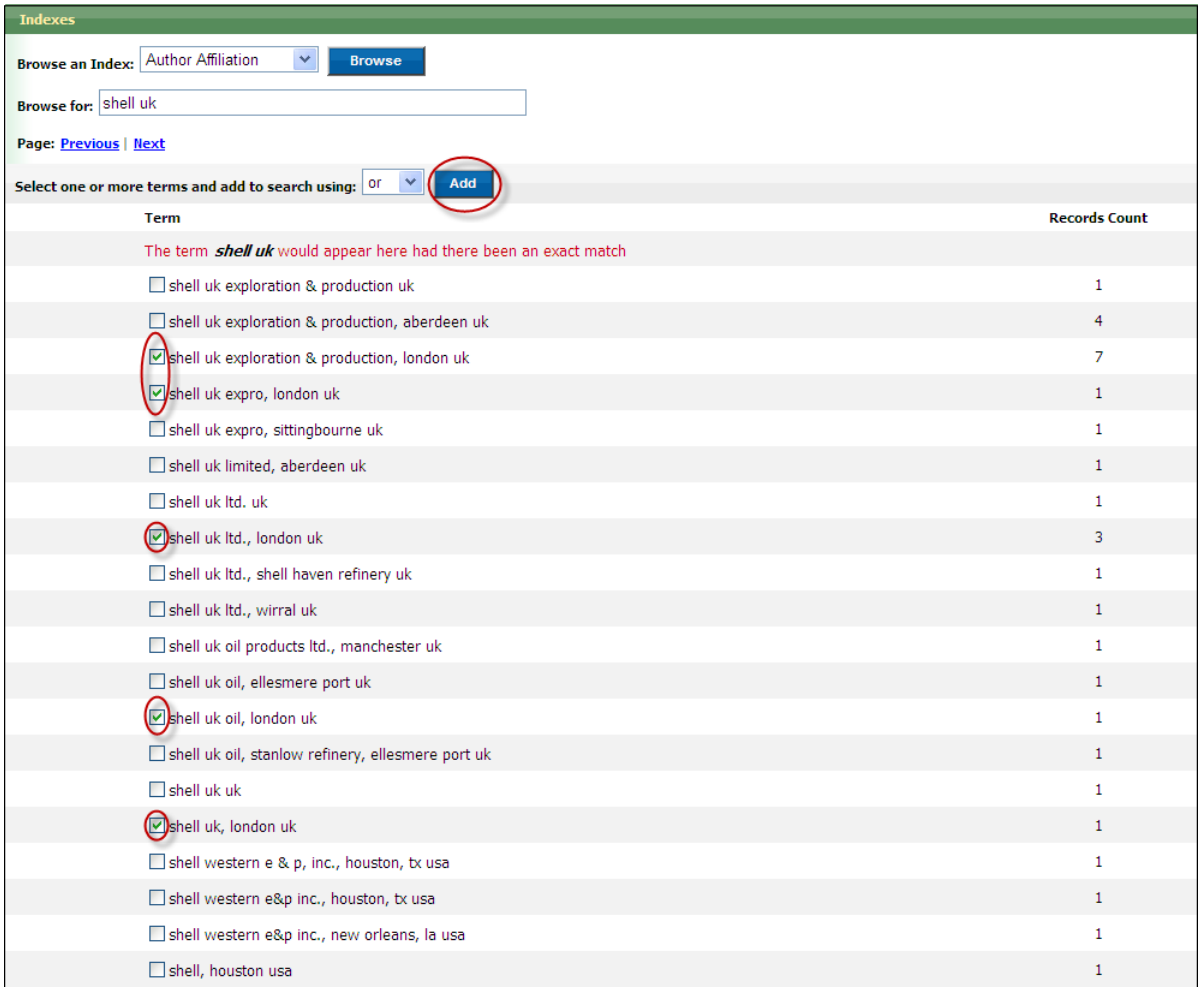


Two examples of Indexes, one for searching Authors and the other one for searching the Author Affiliation (also known as the Corporate Source) are illustrated on the next page.

Author Index:



Author Affiliation Index:



Both of these bibliographic fields are very useful for commercial searching of the Inspec Database – for example for identifying your competitors or potential collaborators in your field.

Note how straightforward it is to select variations of interest and **Add** them to the search.

Be sure to click the N**ew Search** or **Clear** buttons before commencing a new search.

Inspec and Inspec Archive Record Examples

Inspec Record Example:

Title:	**Enhanced luminescence properties of YAG:Ce^{3+} nanophosphor prepared by flame spray pyrolysis**
Authors:	Jae Seok Lee[1]; Kumar, P.[1]; Gupta, S.[1]; Myoung Hwan Oh[1]; Ranade, M.B.[2]; Singh, R.K.[1]
Author's Affiliation:	[1]Mater. Sci. & Eng., Univ. of Florida, Gainesville, FL USA; [2]Particle Eng. Res. Center, Univ. of Florida, Gainesville, FL USA
Source:	Journal of the Electrochemical Society Feb. 2010, vol.157, no.2, pp. K25-9. *ISSN:* 0013-4651 (print), *CODEN:* JESOAN *Publisher:* Electrochemical Society Inc. *Country of Publication:* USA
Language:	English
Abstract:	Cerium-doped $Y_3Al_5O_{12}$ (YAG):Ce^{3+} nanophosphor particles were synthesized using flame spray pyrolysis (FSP) from urea-added nitrate liquid precursor with different molar ratios of yttrium to aluminum. The effect of urea and Y:Al molar ratio in the liquid precursor on the crystallinity and luminescence properties of YAG:Ce^{3+} nanophosphors was studied. The cubic YAG structure was obtained after heat-treatment of as-prepared particles. The addition of urea leads to a higher flame temperature and helps in the formation of crystalline phase during FSP. A higher molar concentration of Al in the liquid precursor helped in better incorporation of the dopant atom in the lattice and also promoted the formation of YAG phase. Well-dispersed spherical particles with an estimated size of 50 nm were obtained by the process. The YAG:Ce^{3+} nanophosphors synthesized using urea and excess aluminum in liquid precursor showed better crystallinity and higher luminescence intensity.
Inspec Headings:	cerium; heat treatment; luminescence; nanostructured materials; ***nanotechnology***; phosphors; yttrium compounds
Key Phrase Headings:	enhanced luminescence property; nanophosphor preparation; flame spray pyrolysis; urea-added nitrate liquid precursor; crystallinity; heat treatment; crystalline phase; molar concentration; well-dispersed spherical shaped particles; $Y_3Al_5O_{12}$:Ce^{3+}
Classification:	A7855H Photoluminescence in other inorganic materials A8140G Other heat and thermomechanical treatments A8116 Methods of nanofabrication and processing A7865P Optical properties of other inorganic semiconductors and insulators (thin films/low-dimensional structures) B4220M Phosphors
Treatment:	Experimental
Chemicals:	Y3Al5O12:Ce/ss Y3Al5O12/ss Al5O12/ss O12/ss Al5/ss Y3/ss Al/ss Ce/ss O/ss Y/ss Ce/el Ce/dop
Number of References:	28
Publication Type:	Journal Paper
Copyright Clearance Center:	0013-4651/2009/157(2)/K25/5/$28.00
Digital Object Identifier:	10.1149/1.3262609
Update Code:	2010008
Accession Number:	11118570
Copyright Information:	Copyright 2010, The Institution of Engineering and Technology
Persistent link to this record (Permalink):	http://search.ebscohost.com/login.aspx?direct=true&db=inh&Al BOOKMARK
Database:	Inspec

Inspec Archive Record Example:

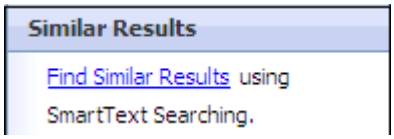
Title:	**On the motion of particles in general *relativity* theory**
Authors:	Einstein, A.; Infeld, L.
Source:	Canadian Journal of Mathematics 1949, vol. 1, no. 3, pp. 209-241 *ISSN:* 0008414X *Country of Publication:* Canada
Abstract:	An earlier derivation of the equations of motion from the field equations [Ann.Math.,41>, 455 (1940)] is re-examined to meet the criticism that the approximation procedure employed did not ensure that the field equations were soluble to an arbitrary high approximation. A new system of successive approximation is developed in which field quantities are expanded in terms of an arbitrary parameter λ, and it is shown that integrability at any stage of the approximation can be ensured by introducing certain dipole terms. These terms are removed after the total field has been calculated to the required degree of approximation, and the removal process gives 3p differential equations defining the motion of the p particles to the degree of approx. considered.
Inspec Headings:	general relativity
Subjects:	general: (particle motion)
Classification:	A0400 Relativity and gravitation
Original Classification:	Physics: 530.1 Fundamentals
Universal Decimal Classification:	530.12
Publication Type:	Journal Paper
Update Code:	195106
Accession Number:	1951A04074
Copyright Information:	Copyright 2004, IEE
Persistent link to this record (Permalink):	http://search.ebscohost.com/login.aspx?direct=true&db=ieh&Al BOOKMARK
Database:	Inspec Archive - Science Abstracts 1898-1968

Hyperlinks

Each Inspec record in the full format offers you a number of hyperlinks that enable you to explore various fields within your search. These include links from **Author(s)**, **Source (Journals), Inspec Headings, Key Phrase Headings (Subject in Inspec Archive),** and **Classification Codes.** Clicking on a link, for example, an author, selects all records by this author available on the Inspec database.

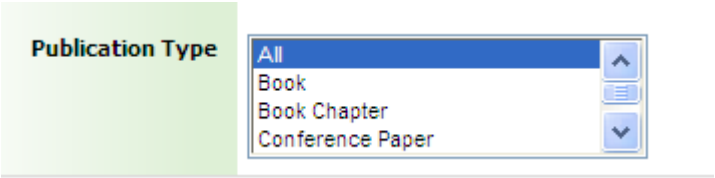
Similar Results

Click on the link at the top right hand corner of the record to find more records in a similar subject area.



Inspec Publication Type

The Inspec and Inspec Archive Record examples were of a '*Journal Paper*' type. In both the Basic and Advanced Search screens you can select the type of record you are interested in from the **Publication Type** menu that appears under **Limit Your Results**.



'*Journal Paper'* and *'Conference Paper'* are the most frequent publication types on the Inspec database. Over 69% of Inspec records come from journals whilst nearly 30% originate in conference meetings. There is an overlap of about 9% of records where *Conference Papers* are published in journals. '*Conference Proceedings'* are records that describe briefly the main topics the conference covered. *Books, Reports and Dissertations* which fall into the main subject areas are covered occasionally. There are 20,586 patents in the Inspec database from the years 1969-1976.

The Inspec Archive consists of 94% journals and nearly 5% conference material.

Searching Inspec Subject Fields

Subject terms can be searched in the title (TI), abstract (AB) and in the following subject fields:

SU (All Subject Headings) – controlled and uncontrolled indexing (word index)
SH (Inspec Headings) – controlled indexing (word index)
KW (Key Phrase Headings) – uncontrolled indexing (word index)
DE – controlled indexing (phrase index)
plus
TX (All Text) – any textual fields including Source and Classification

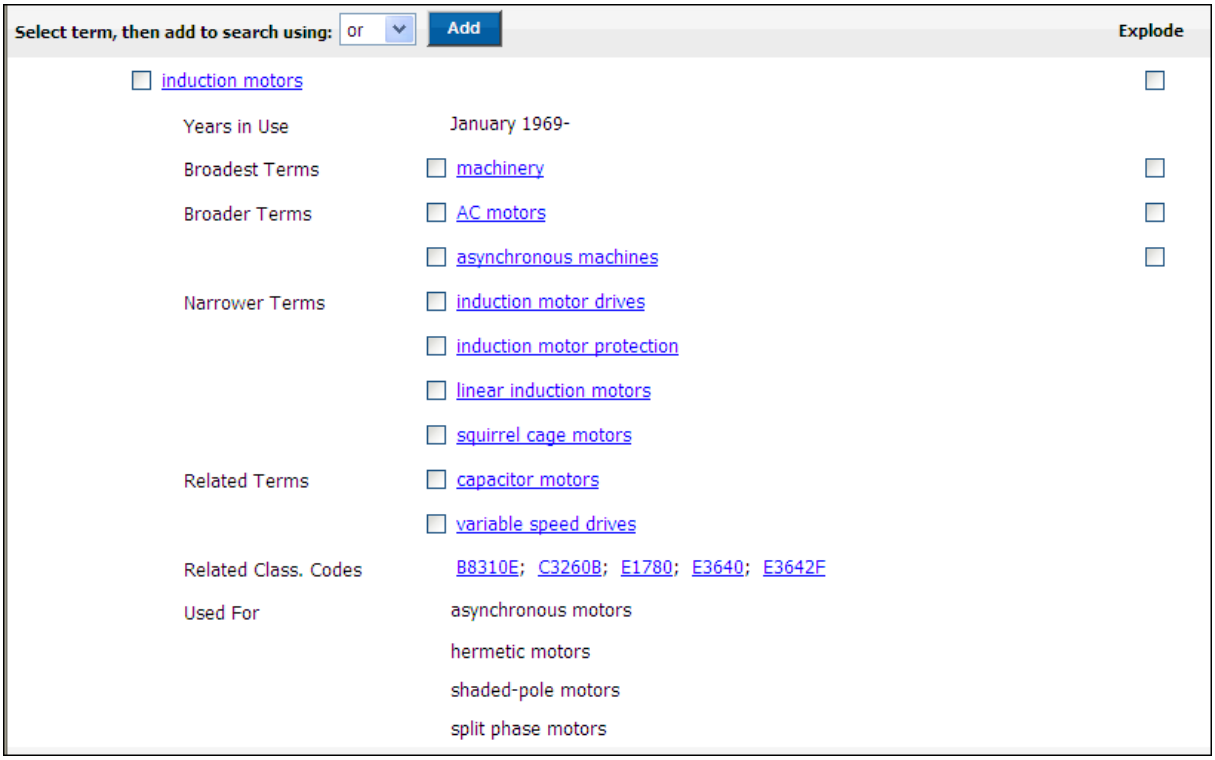
Inspec Thesaurus

The Inspec Thesaurus is a subject key to the Inspec database which serves as a powerful search aid. The 2010 edition contains 18,400 terms of which some 9,600 terms are preferred controlled indexing terms *(Inspec Headings)*. Each Inspec record is typically assigned several *Inspec Headings* from the Inspec Thesaurus (at least one *Inspec Heading* term is assigned but the average number is five to six). Inspec Heading Terms are always assigned at the most specific level.
In the example below you can see *Inspec Headings* as they appear in a typical Inspec record. For comparison, you can also see the display of *Key Phrase Headings* (see also p.20).

Inspec Headings:	astronomical polarimetry; carbon compounds; nitrogen; organic compounds; planetary surfaces; trans-Neptunian objects
Key Phrase Headings:	ground-based polarimetric observations; trans-Neptunian objects; polarimetric techniques; remote-sensing tool; FORS 1; ESO VLT; linear-polarization measurements; Bessell R filter; Pluto; Eris; Ixion; Varuna; linear polarization changes; albedo; methane; carbon monoxide; nitrogen; volatiles; planetary surface properties; N_2; CO

Each *Inspec Heading* has a number of terms associated with it. Some of these are in a direct relationship to the *Inspec Heading* (broader or narrower terms) whilst other terms deal with related topics (Related Terms).

A typical example of an *Inspec Heading* – induction motors with all its relationships is shown below:



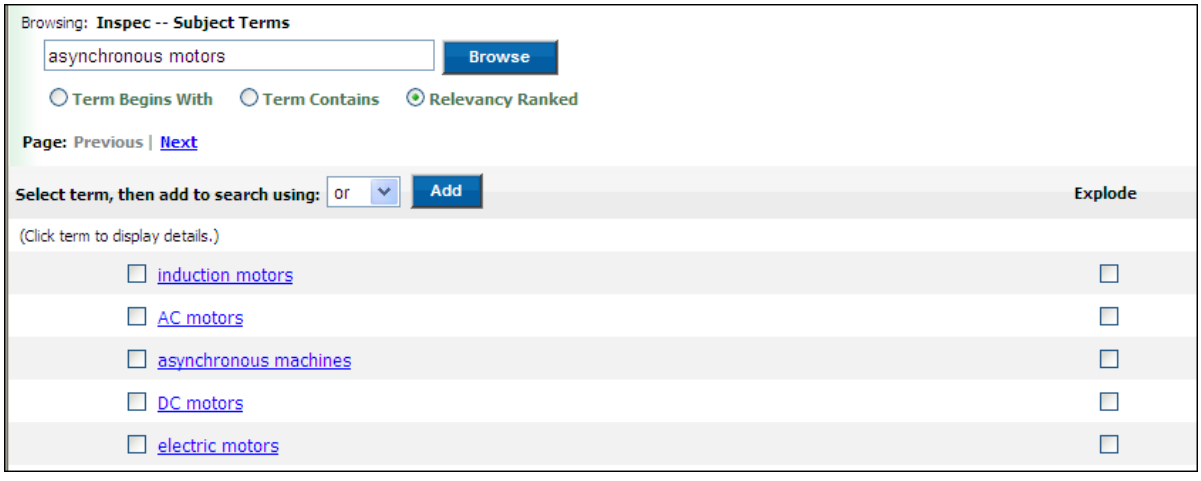
Terms that are displayed at the end of the hierarchy (‘***Used For’*** terms) are called **lead-ins**. These are a part of the Thesaurus but do not have the full relationships associated with them; instead, they direct you to the ‘*preferred term*’ (or *Inspec Heading*), in this case ‘induction motors’.

Finding Inspec Headings

The best way to find the appropriate *Inspec Headings* (Controlled Indexing terms from the Inspec Thesaurus) for your search, is to adopt one of the two methods below:

- Click the ***Thesaurus*** button in any of the three search screens and tick the *Relevancy Ranked* radio button at the top right hand corner of the screen.

- Type your keyword into the ‘***Browse for’*** box and click the *‘**Browse**’* button.
  Click on the most appropriate *Inspec Heading* (e.g. *induction motors*) to see the full relationships of this term (see above). To search the term, you tick the check box and click the ***Search*** button.



- Alternatively, start with a **trial search** using the most relevant keyword for your topic (e.g. asynchronous motors); order the resulting records by relevance; examine *Inspec Headings* displayed in the full format for the most relevant records. An example of the *Inspec Heading* display in a typical record is shown below:

Inspec Headings:	demagnetisation; finite element analysis; induction motors; magnetic circuits; permanent magnet motors; rotors

Note that you can initiate a new search when you click on any of the *'Inspec Heading(s)'*; alternatively, you can first examine all the associated *Inspec Heading* (broader, narrower and related terms) by entering the Thesaurus,and then start your modified search.

Inspec Headings are searchable in Inspec Archive as well as in Inspec.

Key Phrase Headings

Key Phrase Headings are words or phrases which express all the significant concepts in a document, both explicit and implicit. They may contain additional significant concepts that are not contained in the Title or Abstract but are found in the rest of the article. The *Key Phrase Headings* are **not standardised**, either in spelling or terminology. A typical display of Key Phrase Headings in an Inspec record is as follows:

Key Phrase Headings:	dwarf planet; transneptunian population; solar-system bodies; FORS1 instrument; Very Large Telescope; Bessell broadband; linear polarimetry; photometry; coherent-backscattering mechanism; 136199 Eris

The *Key Phrase Headings* are particularly useful for searching of:

- topics that are new (i.e., Inspec Headings are not yet available)
- organic substances (these are not covered by Inspec Chemical Indexing field)
- inorganic substances before 1987 (prior to the introduction of Chemical Indexing)
- words that have both common and technical meaning
- acronyms and manufacturer or brand names

Inspec Classification

The Inspec Classification is a powerful search tool that enables you to limit your search to predetermined sections of the Inspec database.

The Inspec Classification is divided into five sections. Codes begin with

A Physics
B Electrical & Electronic Engineering
C Computing and Control
D Information Technology for Business
E Manufacturing and Production Engineering

A typical display of the Inspec Classification field in an Inspec record is as follows:

Classification:	B8310E Asynchronous machines B8360 Power convertors and power supplies to apparatus C3340H Control of electric power systems C1340B Multivariable control systems C3120E Velocity, acceleration and rotation control

Classifications are searchable in Inspec Archive as well as in Inspec.

Outline of the Inspec Classification:

A - Physics

- A0 General
- A1 The physics of elementary particles and fields
- A2 Nuclear physics
- A3 Atomic and molecular physics
- A4 Fundamental areas of phenomenology
- A5 Fluids, plasmas and electric discharges
- A6 Condensed matter: structure, thermal and mechanical properties
- A7 Condensed matter: electronic structure, electrical, magnetic, optical props.
- A8 Cross-disciplinary physics and related areas of science and technology
- A9 Geophysics, astronomy and astrophysics

B - Electrical Engineering & Electronics

- B0 General topics, engineering mathematics and materials science
- B1 Circuit theory and circuits
- B2 Components, electron devices and materials
- B3 Magnetic and superconducting materials and devices
- B4 Optical materials and applications, electro-optics and optoelectronics
- B5 Electromagnetic fields
- B6 Communications
- B7 Instrumentation and special applications
- B8 Power systems and applications

C - Computers and Control

- C0 General and management topics
- C1 Systems and control theory
- C3 Control technology
- C4 Numerical analysis and theoretical computer topics
- C5 Computer hardware
- C6 Computer software
- C7 Computer applications

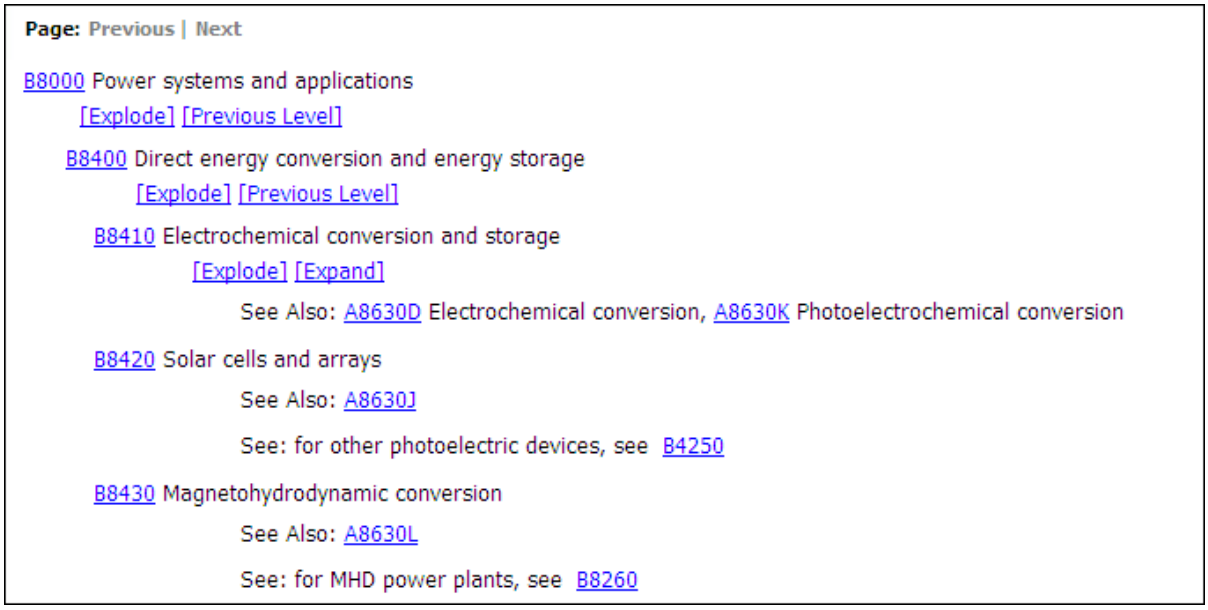
D - Information Technology for Business

- D1 General and management aspects
- D2 Applications
- D3 General systems and equipment
- D4 Office automation – communications
- D5 Office automation – computing

E – Manufacturing and Production Engineering

- E0 General topics in manufacturing and production engineering
- E1 Manufacturing and production
- E3 Industrial sectors

Using the Classification Codes Index that is available via the ***Classification Codes*** button in any of the three search screens, you can browse or search the classification and obtain search results with great accuracy.



Clicking the [Explode] link will search the appropriate Classification Code whilst clicking the [Expand] link will show you more detailed Classification.

At least one classification code is assigned for the main subject matter of each record; several additional codes are often assigned for subsidiary subjects. Codes are always assigned to the most specific level possible and are often assigned from more than one section of the Database (see a typical display of Classification on p. 20) .

Search tips:

Classification can be used at any level, from very broad (two or three digits) to the most specific (six digit codes).

- Using broad classification codes (such as b7* of b72*) is useful particularly for occasional users. Using these codes you can navigate your search to the appropriate part of the Classification and therefore to increase significantly the precision of your search.
- Using the very specific classification codes (such as b7230J for Biosensors) is useful especially when searching repeatedly the same topic. It can be also very useful to use the appropriate classification code in current awareness profiles.

Chemical Indexing

Inspec's Chemicals Indexing field (CI) is a controlled indexing system for inorganic substances and material systems. It is designed to overcome a number of problems that arise in searching for chemical substances in uncontrolled index terms. These include:

- Non-stoichiometric compounds or alloys which may be represented in several ways, e.g. GaAlAs or GaxAl(1-x)As.
- Chemical formulae that have the same spellings as common English words, e.g. gallium phosphide (GaP) – gap or indium (In) – in.
- Chemicals that have the same letters and are differentiated by the use of upper and lower case, e.g., Co (cobalt) or CO (carbon monoxide).

Role indicators

Each chemical substance which is significant for the record is assigned one of three basic role indicators:

role	definition	examples
el	element	Si; He; Fe
bin	binary (two components)	GaAs; He-Ne laser; FeMn alloy
ss	system (three or more components)	H_2SO_4; He-Ne-Ar laser; GaAlAs

Some substances may be assigned additionally one or more special roles which are of significance to specific areas of physics and electronics. These are:

int	interface system
sur	surface or substrate
ads	adsorbate
dop	dopant

When a substance is indexed with one of the special roles, it will also be automatically assigned the appropriate basic role. You have the choice to search for chemicals with special roles or simply for the substances with appropriate basic roles.

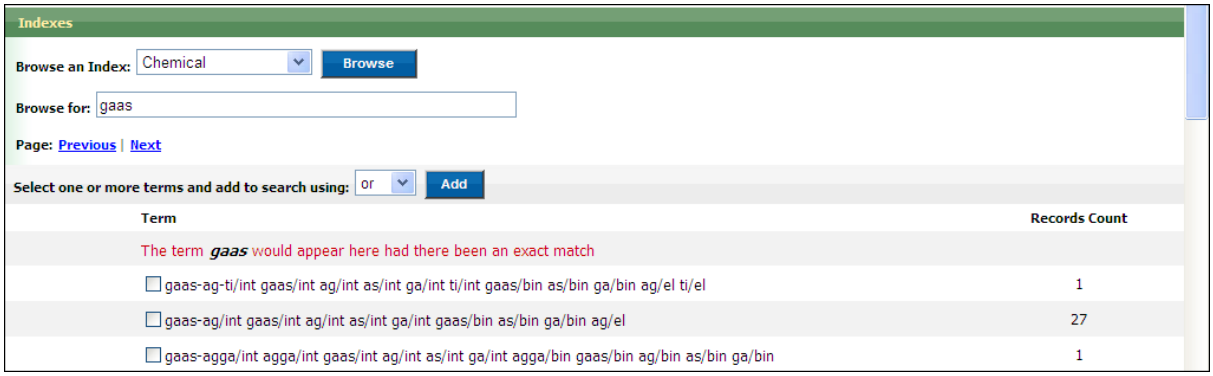
Chemical Indexing – Examples:

Each substance is successively split into its components as shown below:

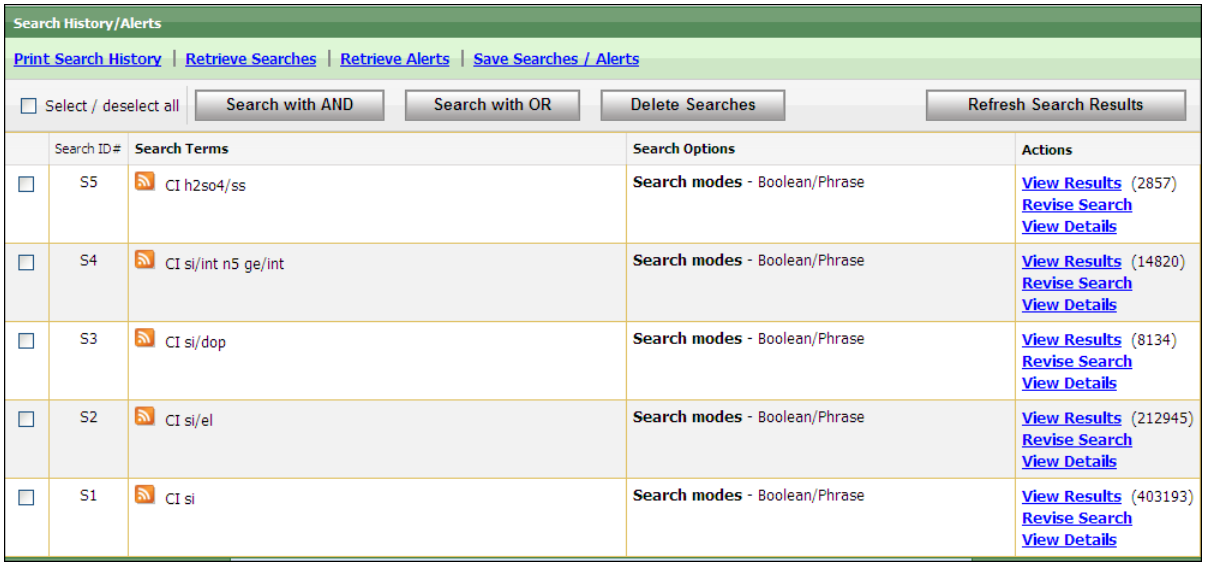
H_2SO_4	H2SO4/ss SO4/ss H2/ss O4/ss H/ss S/ss O/ss
P doped Si	Si:P/bin Si/bin P/bin Si/el P/el P/dop
Cu-Al alloy	CuAl/bin Cu/bin Al/bin
Si-Au interface	Si-Au/int Si/int Au/int Si/el Au/el
GaAlAs	GaAlAs/ss Ga/ss Al/ss As/ss
$Ga_xAl_{1-x}As$	GaAlAs/ss Ga/ss Al/ss As/ss

Browsing Chemical Index

Selecting ***Chemical*** from the drop-down menu via the ***More…Indexes*** button in any of the three search screens will enable you to browse and/or search ***Chemicals*** in the Chemical Index:



Searching Chemicals – Examples



Note the use of the proximity operator N# in search S4.

A typical display of the ***Chemicals*** field in an Inspec record (from the set S3, where Si is searched as a dopant), is shown below:

.

Chemicals:	BN: ***Si*** ss BN/ss ***Si*** ss B/ss N/ss BN/bin B/bin N/bin ***Si*** el ***Si dop***; HCN/ss CN/ss C/ss H/ss N/ss

Search Tips

- When searching for a substance that has a straightforward formula (e.g. H_2SO_4), it is best to search directly for the substance with the appropriate role, in this case the *ss role*.
- However, when searching substances in which the order of elements can be variable or not precisely known (such as in the case of semiconductors, alloys or mixtures), it is necessary to consider all possible variations of the formulas searched and it is therefore better to search for the individual components of the substance, and to combine them with the *n# operator* (see search S4 above).

Numerical Data Indexing

Numerical data indexing (NI) overcomes problems due to the variety of ways in which authors may express a particular value. For example, to find all the references to power stations generating at 27.5 MW, values may be expressed as 27.5 MW, 27500 kW, 27 megawatts, 27 MWatt, etc., making it difficult to achieve comprehensive retrieval.

Inspec's numerical data indexing standardises the format:

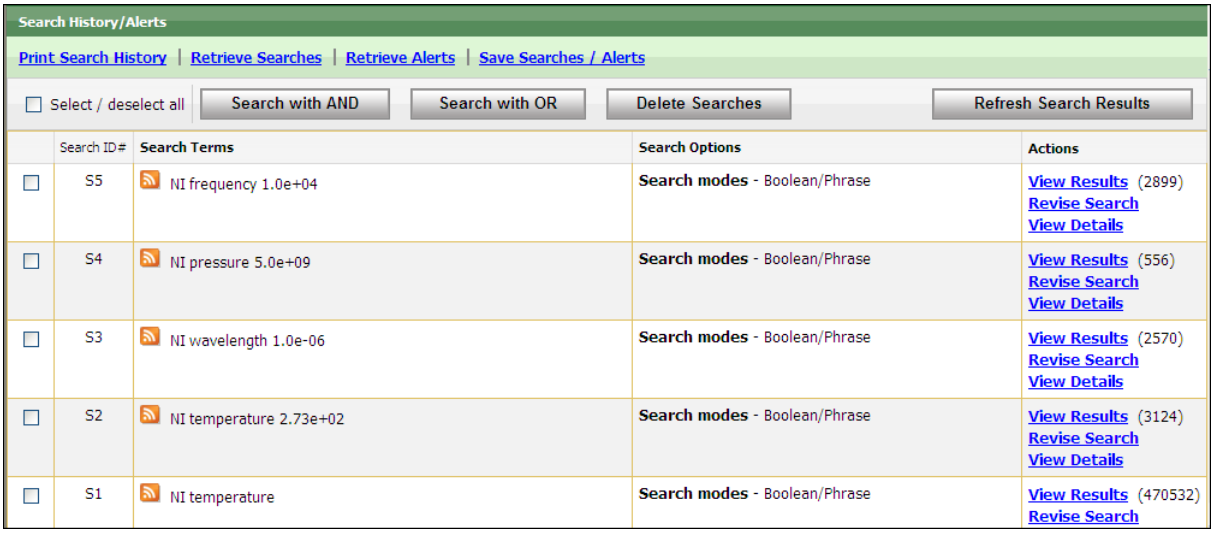
power of 25 megawatts:	power 2.5E+07 W
temperature of 100° C	temperature 2.73E+02

Values are expressed in floating point exponential format, e.g., 1.8E+04 for 18,000 and 9.5E-01 for 0.95. Each numerical index term has the following format:

Quantity Value (to Value) Unit where:

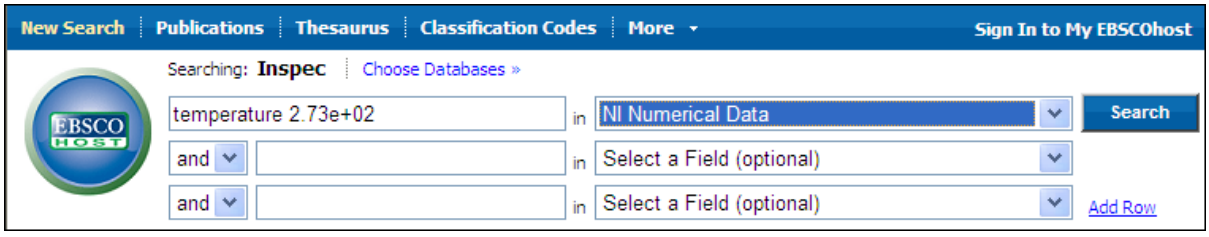
- **quantity** represents the physical quantity, e.g., temperature, wavelength;
- **unit** is of the SI type, e.g. metre (M), hertz (Hz), kelvin (K).
- **value** is the actual value or range expressed in floating point format

Searching Numerical Data — Examples

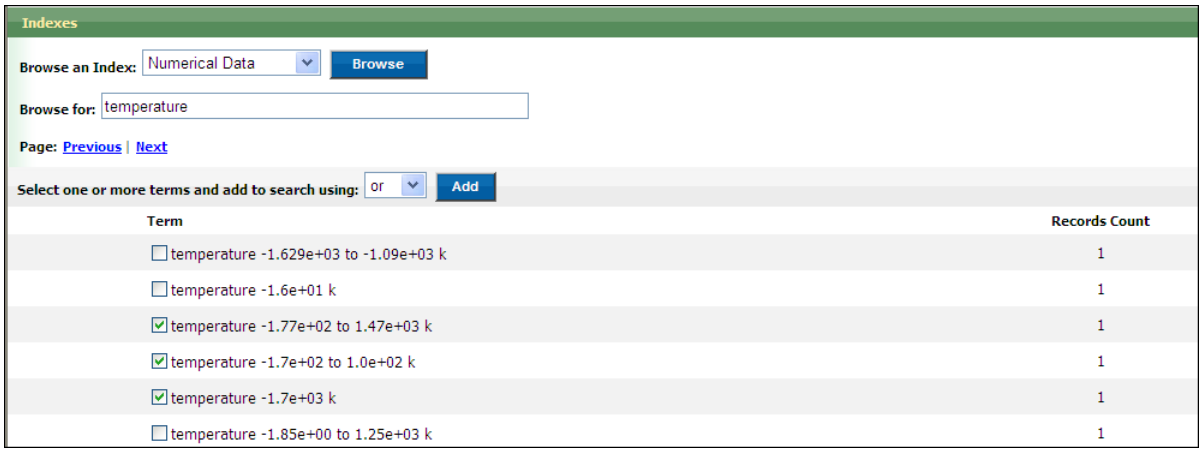


Search Tips:

- In the ***Advanced Search***, you can select the ***Numerical Data field*** from the drop-down menu; you then type your search statement into the search box without the NI label, e.g.



- Via the **More…*Indexes*** button in any of the three search screens, you can browse and then search any of the Numerical quantities, as shown below (browsing temperature):



Alphabetical Guide to Numerical Quantities and Their Units

Quantity	Unit	Quantity	Unit
age	yr	loss	dB
altitude	m	magnetic flux density	T
apparent power	VA	mass	kg
bandwidth	Hz	memory size	Byte
bit rate	bit/s	noise figure	dB
Byte rate	Byte/s	picture size	pixel
capacitance	F	power	W
computer execution rate	IPS	pressure	Pa
computer speed	FLOPS	printer speed	cps
conductance	S	radiation absorbed dose	Gy
current	A	radiation dose equivalent	Sv
depth	m	radiation exposure	C/kg
distance	m	radioactivity	Bq
efficiency	percent	reactive power	VAr
electrical conductivity	S/m	resistance	ohm
electrical resistivity	ohmm	size	m
electron volt energy	eV	stellar mass	Msol
energy	J	storage capacity	bit
frequency	Hz	temperature	K
gain	dB	time	s
galactic distance	pc	velocity	m/s
geocentric distance	m	voltage	V
heliocentric distance	AU	wavelength	m
		word length	bit

Astronomical Object Indexing

Astronomical Object designations (AI) have been indexed in a separate field since 1995. This allows named or numbered objects to be retrieved more efficiently. The 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. This number may be sequential, such as NGC 204, or it may represent an approximate location in the sky, usually in terms of right ascension and declination (such as PSR 1913+16) or Galactic coordinates (such as G 345.01+1.79).

- **Positional information only**. For example, 013022+30233.

Searching Astronomical Data — Examples

Search Examples	Search syntax (when index unspecified in drop-down)	Search results (Mar 2010)	Search Hints
Markarian galaxies	ai Mrk*	1158	*before 1995:* kw (mrk or mkn) or kw (markarian or markaryan)
X-ray source which starts '3A 0322'	ai 3a 0322*	5	search the string as indicated
Objects with positional designations	ai 1608*	117	retrieves objects in both hemispheres
	ai 1608-52*	77	retrieves objects in a small patch of the sky (southern hemisphere)

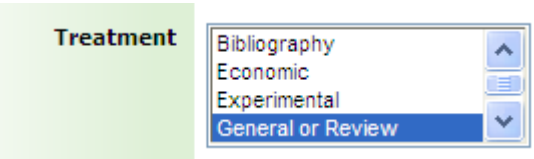
Note: Inspec follows the guidelines produced by the International Astronomical Union.
A thesaurus-type document entitled "Nomenclature of Astronomical Catalogue Designations" is available upon request from Inspec.

Treatment Codes

The purpose of Treatment Codes (TR) is to indicate what type of an approach the author(s) have adopted to the subject dealt with — theoretical, experimental etc. There are nine Treatment Codes as shown in the table below.

Treatment Code	Search syntax	Treatment Code	Search syntax
Application	tr a	Practical	tr p
Bibliography	tr b	Product Review	tr r
Economic	tr e	Theoretical	tr t
General or Review	tr g	Experimental	tr x
New Development	tr n		

In the Advanced search, you can limit your current search by the appropriate Treatment Code using the drop-down menu from **Limit your results**:



Search Tips:

The Treatment Codes can be subjective and their use is recommended at the end of the search. One record may have two or more Treatment Codes assigned where several aspects are present. For example, a record may describe both theoretical and experimental treatment of a subject and it may also present some details of its applications. There are also some records where no Treatment Codes were assigned as none of the Treatment Codes would be appropriate (this applies for example to Conference Proceedings records).

International Patent Classification Codes

Inspec has now mapped its own indexing schemes to the WIPO IPC scheme, enabling IPC codes to be assigned to relevant records.

The Inspec implementation of IPC codes is a valuable tool for the prior art searcher, allowing the ready clustering of relevant non-patent literature within the same familiar code structure used for patents. This functionality can be used for Inspec records all the way back to 1969. Initial trials indicate that about 75% of Inspec records contain IPC codes, and that the average record with these codes has two assigned to it.

The IPC scheme and Inspec do not cover exactly the same conceptual territory or approach. Consequently the level of precision of the IPC symbols applied varies depending on the relationships between the schemes and specific subjects themselves.

To assist searches, a list of IPC codes used in Inspec is available to download. The list also contains the hierarchical context to help understand the codes and their text.

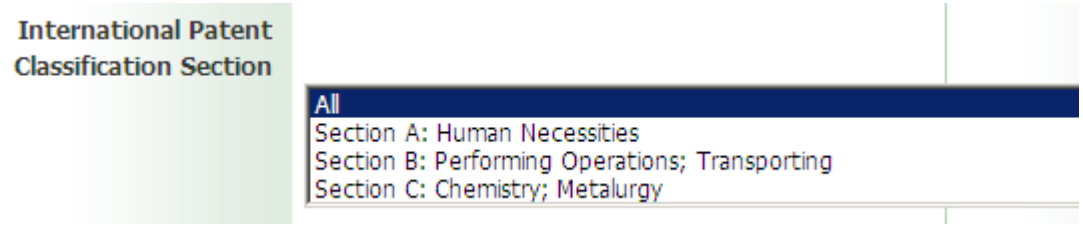
http://www.theiet.org/publishing/inspec/about/records/IPC.cfm

WIPO has kindly granted the IET the right to use IPC codes but these codes remain the copyright of the World Intellectual Property Organization.

A typical display of the IPC code field (CP) in an Inspec record is as follows:

International Patent Classification:
B01D37/00 Processes of filtration
B82B1/00 Nano-structures
B82B3/00 Manufacture or treatment of nano-structures
H01L27/142 Energy conversion devices
H01L31/04 Adapted as conversion devices
H02N6/00 Generators in which light radiation is directly converted into electrical energy

In the Advanced search, you can limit your current search by the appropriate IPC Code section using the drop-down menu from **Limit your results**:



Use of Drop-Down Menus versus 2-Letter Database Field Codes

The majority of screen-shots shown in this user guide have illustrated the use of drop-down menus for searching or limiting by specific database fields e.g. author, treatment code and publication type. While this is a very intuitive way to search EBSCO*host*, it is also possible to search a specific field *without* using drop-downs, using the 2-letter search codes for each desired field, e.g. AU for author.

A full list of search codes may be found in the Alphabetical Guide on p.33.
The Guide lists additional database fields, not available as drop-down options, which may be searched by 2-letter codes, e.g. journal name.

To search using database field codes, simply precede the desired search string by the relevant 2-letter code in the search box of any search screen. **Do not specify a drop-down field**.

e.g. AB nanoshell and CY germany and PT journal paper

Subject Search Aids from Inspec

A range of free documentation is available from both the Institution of Engineering & Technology and EBSCO Websites.

Subject Search Examples — Step-by-Step Guide

Example 1 Use of iron nanoshells in treatment of tumours

This example illustrates the use of Thesaurus Terms, Key Phrase Headings and Classifications

Concept	Search Method	Set	Search Statement	Hits Mar 2010
Nanoshells and tumours and iron	Type a Boolean expression into the search box and select "Default fields". This will search all fields.	S1	Nanoshell* and (tumour* or tumor*) and iron	1
Tumours	Browse S1 record and examine the Inspec Heading(s) field. There is a term for **Tumours**. You can search this term in the DE field.	S2	DE "tumours"	17790
Cellular biophysics	Identify related terms. Click on the Thesaurus button, browse to Tumours and check for related terms (RT). One is **Cellular Biophysics** which has narrower terms. Tick the boxes for *Explode* and the term then *Add* directly from the thesaurus.	S3	DE "cellular biophysics" OR DE "cellular effects of radiation" OR DE "cellular transport"	65128
Nanoparticles	**Nanoparticles** was an Inspec Heading in the S1 record. Browse the thesaurus. Previous term was **Nanostructured Materials**, which can be exploded. Terms can be added directly from the thesaurus.	S4	DE "nanostructured materials" OR DE "nanobelts" OR DE "nanocomposites" OR DE "nanofibres" OR DE "nanoparticles" OR DE "nanoporous materials" OR DE "nanotubes" OR DE "nanowires"	154442
Nanotechnology	**Nanotechnology** was an Inspec Heading in the S1 record. Browse the thesaurus. Useful narrower terms include **nanobiotechnology** and **nanopositioning**. These terms can be added directly from the thesaurus.	S5	DE "nanotechnology" or DE "nanobiotechnology" or DE "nanopositioning"	46888

Continued…

Nanoshells	**Nanoshells** was a Key Phrase Heading in the S1 record. Search it in the All Subject Headings drop-down in Advanced Search.	S6	SU nanoshell*	461
A8783	Classification Code **A8783: Nanotechnology applications in biomedicine** was used in the S1 record.	S7	CC A8783	7822
Combined concepts	Combine nanoshell concepts by OR; link with tumours using AND logic.	S8	(S2 OR S3) AND (S4 OR S5 OR S6 OR S7)	4007
Synonyms for iron	Refine the hit set with synonyms for iron in the default fields.	S9	S8 and (iron or fe or ferric or ferrous)	429
Limit to Practical references	Limit by Treatment P**ractical** in drop-down in Advanced Search.	S10		230

In EBSCOhost, the search history looks like this:

	Search ID#	Search Terms	Search Options	Actions
☐	S10	S8 and (iron or fe or ferric or ferrous)	**Limiters** - Treatment: Practical **Search modes** - Boolean/Phrase	View Results (230) Revise Search View Details
☐	S9	S8 and (iron or fe or ferric or ferrous)	**Search modes** - Boolean/Phrase	View Results (429) Revise Search View Details
☐	S8	(S2 OR S3) AND (S4 OR S5 OR S6 OR S7)	**Search modes** - Boolean/Phrase	View Results (4007) Revise Search View Details
☐	S7	CC A8783	**Search modes** - Boolean/Phrase	View Results (7822) Revise Search View Details
☐	S6	SU nanoshell*	**Search modes** - Boolean/Phrase	View Results (461) Revise Search View Details
☐	S5	DE "nanotechnology" or DE "nanobiotechnology" or DE "nanopositioning"	**Search modes** - Boolean/Phrase	View Results (46888) Revise Search View Details
☐	S4	DE "nanoparticles" or DE "nanostructured materials" OR DE "nanobelts" OR DE "nanocomposites" OR DE "nanofibres" OR DE "nanoparticles" OR DE "nanoporous materials" OR DE "nanotubes" OR DE "nanowires"	**Search modes** - Boolean/Phrase	View Results (154442) Revise Search View Details
☐	S3	DE "cellular biophysics" OR DE "cellular effects of radiation" OR DE "cellular transport"	**Search modes** - Boolean/Phrase	View Results (65128) Revise Search View Details
☐	S2	(DE "tumours")	**Search modes** - Boolean/Phrase	View Results (17790) Revise Search View Details
☐	S1	(nanoshell* and tumour*) and (iron or fe or ferr*)	**Search modes** - Boolean/Phrase	View Results (1) Revise Search View Details

Example 2 Relative energy efficiency of fluorescent and LED lamps

This example illustrates the use of Subject Headings and Classification Codes

Concept	Search Method	Set	Search Statement	Hits Mar 2010
Fluorescent lamps, LED lamps and energy efficiency	Type a Boolean expression into the search box and select "Default fields". This will search all fields.	S1	fluorescent lamps and led lamps and energy efficiency	4
B8215	Classification Code **B8215: Energy Conservation** occurred in several hits.	S2	CC B8215	3991
Energy Conservation	**Energy conservation** is an Inspec Heading and may also be searched in Key Phrase Headings using SU field.	S3	SU energy conservation	14367
Fluorescent lamps	**Fluorescent lamps** is an Inspec Heading and may also be searched in Key Phrase Headings using SU field.	S4	SU fluorescent lamps	3466
LED lamps	**LED lamps** and **light emitting diode** are Inspec Headings and may also be searched in Key Phrase Headings using SU field.	S5	SU led lamps or SU light emitting diodes	26175
Combine concepts	Combine concepts by Boolean logic in default fields	S6	(S2 OR S3) AND S4 AND S5	8

Search Tips:

- ***Inspec Headings*** can be searched by precise matching of the whole term in a phrase index (DE), or by single word search in a word Index (SH).
- ***Inspec Headings*** and ***Key Phrase Headings*** can be searched together in a combined SU field.
- In the ***Advanced Search***, you can select the required field from the drop-down menu on the right hand side of the search box and in that case you only need to type the search string itself (and not the name of the search field).

Bibliographic Searching Examples

Field	Label	Search Hints/ Notes	Examples	Search statement
Authors	AU	Surname, Initial.Initial.	T.G. Trippe	AU Trippe,T.G. or AU Trippe,T.*
Author and Editor Affiliation	AF	Search for department, institution name, town, country etc.	National Phys. Lab., Teddington UK	AF ((nat* w phys* w lab*) or (npl)) and teddington
Country of Publication	CY	Search for the country of publication	France	CY France
Publication type	PT	Search by complete phrase, like book, journal paper etc. or truncated e.g. journal*	journal article	
Journal name	JN	Journal title	Electronics letters	JN electronics letters
Conference information	CF	Conference title	IBC Conference	CF IBC
		Conference location	Amsterdam	CF Amsterdam
		Conference year	1996	CF 1996
Accession number	AN	Unique number assigned to each record entered into the Inspec Database	Ten millionth record in database	AN 10000000

EBSCOhost Search Fields — Alphabetical Guide

FIELD NAME	SEARCH CODE	EXAMPLES
Abstract	AB	aircraft
Abstract Number	AZ	B1983-004410
Accession Number	AN	7200633
All Subject Headings	SU	lasers
All Text	TX	bose-einstein
Astronomical Object Indexing	AI	mrk
Author	AU	bohm s
Author Affiliation	AF	mesa and usa
Author Phrase	AR*	berryman, a.a.
Availability	AV*	simon & schuster
Base Date	DD*	2008
Book as a Source (book title)	BS*	telecommunication
Chemical Indexing	CI	he/bin
Classification Code	CC	b7230*
Classification Code Title	CT	laser
Patent Class Title	PC	
Patent Class Code	CP	B01D37/00
Classification Section	CS*	“section a: physics”
CODEN	CO	PSISDG
Conference Information	CN	Boston
Conference Sponsor	CF*	NASA
Contract Number	CM	EEA-1-001-N
Country of Publication	CY	usa
Description of Unconventional Media	MD*	Microfiche
Digital Object Identifier	DI*	10.1016/j.optlastec.2007.09.004
Document Number	DN	s0013-4651-07-01709-0
Document URL	UR*	http://firstmonday*
Format Full Text	FM*	c
Full Text	FT*	n
Index Heading Phrase	DE*	avalanche diodes
Inspec Headings	SH	diffusion
Inspec Headings	IH*	space vehicles
ISBN	IB	0 444 42560 8
ISSN	IS	0042-207X
Issue	IP	15
Journal Abbreviated	JA*	“J. Comput. Phys. (USA)”
Journal Name	JN*	electronics letters
Key Phrase Headings	KW	metadata
Keywords	KP*	computer simulation
Language	LA	german
Number of Pages	PG*	32
Number of References	NR	25
Numerical Data Indexing	NI	frequency 3.0e+09 hz
Organizations (source field)	CA	NASA
Original Classification (Archive only)	OC	automobilism
Patent Assignee	PA	Clark Equipment
Patent Information	PI	uk

FIELD NAME (continued)	SEARCH CODE	EXAMPLES
Patent Priority Date	PD*	19730503
Publication Date	DT	20071214
Publication Date of Additional Source (Archive only)	AD	AD 1901
Publication Date of Non Abstracted Source	OD	2006
Publication Date of Translation	TD*	19991225
Publication Type (Phrase)	PT	book
Publisher Information	PB	unesco
Report Number	RN	npl coem 34
Revision Date	RD	20021212
SICI	IC	21:1L.13:LESI
Source	SO	vacuum
Standard Number	SN	1542
Start Page	SP	1201
Subject Headings (Archive only)	MS	balloons
Submission Date	DP	1970
Submission Date (YYYYMMDD)	FD*	19980801
Title	TI	avionics
Treatment Codes	TR	bibliography
Universal Decimal Classification (Archive only)	NI	662
Update Code	UC	1999050
US Government Clearing House Number	CL*	ad 672317
Volume	VI	5
Year of Publication	YR	2000
* not available from drop down menu		