CSA Technology Research Database Guide

2006

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CSA Technology Research Database

1. 10 Reasons to Use CSA Technology Research Database

1. Access to over 7 million records from academic, scientific and trade sources in more than 3,500 serials and about 1,000 non-serials per year including conference proceedings, reports, monographs, handbooks, pamphlets, trade literature and standards.
2. Coverage dating to 1962
3. Complimentary access to MicroPatent Materials Patents searched simultaneously with TRD subfiles
4. Advance searching capability of 40 indexed fields
5. Ability to search across broad technology and engineering subject areas using a master authority file of over 40,000 Technology Terms
6. Searching via Browsable Indexes
7. Automatic de-duping feature
8. Lateral searching through Authors and Descriptors
9. Automatic searches of the Recent References and Web Resources Related to Technology databases
10. Easy citation formatting via QuikBib

2. What is CSA Technology Research Database ?

This comprehensive database provides a single mega-file of unique records available through its 3 components: The CSA Materials Research Database with METADEX, CSA High Technology Research Database with Aerospace and the CSA Engineering Research Database. CSA Technology Research Database offers coverage of the broad technology and engineering subject areas including aerospace and astronautics engineering, civil engineering, mechanical and transportation engineering and materials science. Technology is one of the four subject areas in which CSA provides comprehensive coverage. CSA is dedicated to continually broaden this coverage as new areas of technology are identified.

A little history will provide insight into the quality of the databases included in CSA's TRD with their topical foci and with an editorial staff supplying indexing terms and related web resources as well as assigning classification codes when appropriate. It is the focused nature of these databases while at the same time being able to cross-search them that offers a unique research tool.

The CSA distribution of engineering databases began in May 1996 with the acquisition of Materials Information from ASM International (now known as ASM) and the Institute of Materials who had jointly owned these respected databases for more than 30 years. As a result, CSA added the leading metallurgical database, METADEX, to its portfolio along with other materials sciences databases including Aluminum Industry Abstracts, Ceramic Abstracts/World Ceramic Abstracts, Copper Data Center Database, Corrosion Abstracts, Engineered Materials

Abstracts, Materials Business File, and WELDASEARCH. These eight files have traditionally been sold as one database, known as the Materials Research Database (MRD).

CSA's ability to provide access to key engineering databases grew in 2000 with the acquisition of the Aerospace Database from the American Institute of Aeronautics and Astronautics (AIAA). CSA improved this authoritative database on its platform in 2001 by adding the pre-1986 backfiles. Brought together with the other CSA databases Computer & Information Systems Abstracts, Communication & Electronics Abstracts and Solid State & Superconductivity Abstracts, these four databases are traditionally sold together and comprise the Aerospace & High Technology Database (HTRD).

Shortly after the Aerospace Database acquisition, CSA undertook a year-long study of available engineering products to evaluate bibliographic coverage of core engineering areas. The findings of this study revealed that while existing database resources provided some coverage of mechanical and civil engineering literature, important segments of these fields were ignored. As a result, CSA developed and produced two new databases to fill these gaps, Mechanical & Transportation Engineering Abstracts and Civil Engineering Abstracts. These databases, along with the related files Abstracts in New Technology and Engineering (ANTE), Earthquake Engineering Abstracts, and Environmental Engineering Abstracts, comprise the Engineering Research Database (ERD).

In 2003, our editorial and database development teams integrated the three component files into one, large metafile known as the Technology Research Database (TRD). The TRD became commercially available in January 2004. It is important to note that, in addition to acquiring databases over the years, CSA has also maintained the expertise that had formed their development and editorial authority by retaining the former editorial and management staffs of the materials and aerospace databases.

3. Benefits of CSA Technology Research Database

The TRD configuration preserves the ability for users to search at the individual database level (e.g., METADEX) or the component level (e.g., HTRD) but now also across all databases simultaneously for a single, consolidated record set. The TRD configuration increases search flexibility and precision.

A subscription to CSA Technology Research Database:

- ✓ Provides online access to a comprehensive overview of engineering and broad technology subject areas.
- ✓ Ensures a quality control users rely on with editing done by a human editor who reviews and corrects each record and adding appropriate classifications and descriptors
- ✓ Benefits the user by utilizing the functionality of the award winning *CSA Illumina* Platform
- ✓ Contains unique information for the user including publisher URLs and Author contact information when available

- ✓ Inclusion of Cited References since 2002 in the Engineering Research Database's and its subfiles and as of mid-2004, in the full subcollections (with the exception of the subfile Weldasearch).

4. CSA Technology Research Database Subjects Covered

The scope and coverage of the CSA Technology Research Database has been developed to continually reflect the changing information needs of its users and emerging technologies and research developments in such areas as:

- o Aeronautics
- o Alloys
- o Astronautics
- o Biomaterials
- o Casting and molding
- o Ceramics
- o Civil engineering
- o Communications and networks
- o Composites
- o Computer applications
- o Construction materials
- o Corrosion
- o Database information systems
- o Decision support systems
- o Earthquake engineering
- o Electronics
- o Engineered materials
- o Environmental engineering
- o Glass
- o Intermetallics
- o Mechanical engineering
- o Metallurgy
- o Metals and their applications
- o Meteorology, climatology and oceanography
- o Navigation
- o Nonferrous metals
- o Optical and acoustic technology
- o Pollution, waste and water engineering
- o Polymers
- o Robotics and automation
- o Semiconductors
- o Space biology
- o Steels
- o Superconductors
- o Surface finishing
- o Telecommunications

- Transportation engineering
- Welding

Approximately 350,000-400,000 records are added annually.

Classification Schemes:

CSA Technology Research Database editors strive to facilitate searching by assigning to each record a unique subject classification code. Each TRD subfile (with the exception of Earthquake Engineering Abstracts, Corrosion Abstracts, and ANTE: Abstracts in New Technologies) has its own classification scheme which can be found in its entirety in each subfiles factsheet as a Quick Link.

Descriptors:

As a new term appears in the materials being indexed, it is accessible electronically via free-text searching of the abstract and/or title of the bibliographic record. As its usage in the literature increases, a term may be established as a Descriptor and connected to related terms. Similarly, Descriptors may be retired as usage of the concept declines. New terminology for existing concepts may also be established.

These Descriptors and Classification Codes may be used as searchable fields with the Descriptors (DE=) and Classification (CL=) field when constructing queries (see the *Selection and Indexing Policy* section for more information).

5. Supplemental Complimentary Databases

When you search any of the *CSA Illumina* Technology Research Database files, two supplementary databases are searched simultaneously: Recent References Related to Technology and Web Resources Related to Technology. Also, when searching the CSA TRD or Materials Research Database with Metadex, an additional database, MicroPatent Materials Patents, is searched. Access to these databases is included with a subscription to CSA Technology Research Database on *CSA Illumina* (due to the inclusion of a few related databases within the subject area Technology there are also included Recent References Related to Natural Sciences and Computer Sciences as well as Web Resources Related to Technology and Natural Sciences).

Recent References Related to Technology
The CSA Technology Research Database Recent References Related to Technology file is a pre-publication file updated weekly that contains records in process for one or more CSA-TRD subfiles. This file represents future CSA-TRD content. Records are drawn from all publications indexed for inclusion in CSA-TRD. Each record contains searchable fields for article title, author name(s), author affiliation(s) and bibliographic/source information. Most records also contain additional searchable fields including an abstract and indexing terms. A provoked search within a single subfile will recall results from across all of the Technology Research Database files.

Web Resources Related to Technology
A collection of over 40,000 high-quality web sites which are hand-picked and hand-indexed. Sites indexed contain specific technical or business information, from such respected sources as educational institutions, government agencies, scientific organizations, and business/professional organizations. Links are reviewed on a monthly basis, and average a phenomenal rate of less than 2% deadlinks.

MicroPatent Materials Patents

The MicroPatent Materials Patents database supplements *CSA Illumina* by providing monthly updates of US, European (EP) and Patent Cooperation Treaty (PCT) patents that are directly related to subject area searched.

6. Searchable Fields and Codes

Full-Record View

Record View | Return to Results | Help & Support

1 of 24446 Next >

Mark This Record | Update Marked List | Save, Print, Email | RefWorks
Full-Text Linking | Links to Holdings | InterLibrary Loan | Document Delivery

Database CSA Technology Research Database

Title **Nanoscale TiB precipitates in laser deposited Ti-matrix composites**

Author Banerjee, R; Genc, A; Hill, D; Collins, P C; Fraser, H L

Affiliation Center for the Accelerated Maturation of Materials, Department of Materials Science and Engineering, The Ohio State University, Columbus, OH 43210, USA

Source Scripta Materialia. Vol. 53, no. 12, pp. 1433-1437. Dec. 2005

ISSN 1359-6462

Descriptors Titanium | Metal matrix composites | Titanium borides | Particulate composites | Precipitates | Rapid solidification | Microstructure | Decomposition | Laser deposition

New Search Using Marked Terms: Use **AND** to narrow Use **OR** to broaden Go

Abstract Metal-matrix composites based on boride reinforcements in a titanium base matrix have been deposited in situ from a powder feedstock consisting of a blend of Ti-alloy and elemental boron powders using the laser engineered net-shaping (LENS) process. These composites exhibit a homogeneous multi-scale microstructure consisting of micron to sub-micron as well as nanometer scale TiB precipitates in a metal matrix. While the coarser precipitates result from rapid solidification of the liquid, the nanometer-scale precipitates are likely to form from the solid-state decomposition of a boron supersaturated Ti-base matrix. Such nanometer-scale TiB precipitates can play a prominent role in determining the mechanical properties of these composites.

Email Address banerjee@unt.edu

Publisher Elsevier Science Inc , 650 Avenue of the Americas, 2nd Floor, New York, NY, 10010-2098, USA, http://www.elsevier.com

Illustrations Photomicrographs

Number of References 15

Language English

Publication Year 2005

Publication Type Journal Article

Classification 62 Composites (MD); 4 Ceramic-Metal Systems (WC)

DOI 10.1016/j.scriptamat.2005.08.014

Update 200512

Accession Number 200514-62-40012 (MD); 84-23086 (WC)

Subfile Metadex (MD); Ceramic Abstracts/World Ceramics (WC)

References 1. KeicherD. M. & MillerW. D. (1998). *Met Powder Rep*, 53, 26.

2. Lewis GK, Milewski JO, Nemec RB, Thoma DJ, Barbe M, Cremers D. Los Alamos Technical Report, LA-UR-95-2845, 1995.

Table

The table below shows field codes and sample search queries with regard to the Full Record View screen shot on the previous page.

Field Name	Label	Advanced and Command Search Examples
Title	TI=	ti=(carbon dioxide) and mines
Author	AU=	au=steigman, g au=sharp, a
Affiliation	AF=	af=(ohio state university)
Source	SO=	so=(chemical engineering science)
ISSN	IS=	is=0143-7496
Descriptors	DE=	de=chromium steels de=(creep life) de=(fiber composites)
Abstract	AB=	ab=((titanium or molybdenum) and (corrosion))
Email Address	EA=	ea=ioannis.chronakis@ifp.se
Publisher	PU=	pu=Elsevier Science Ltd
Illustrations	IL=	il=graphs
Language	LA=	la=english
Publication Year	PY=	py=2005
Publication Type	PT=	pt=journal article
Classification	CL=	cl=81 Engineering and Sciences (CI)
Digital Object Identifier (DOI)	DO=	do=(10.1016/j.ijadhadh.2005.03.005)
Update	UD=	ud=200510
Accession Number	AN=	an=200513-11-56518 (MT)
Subfile	SF=	sf=Environmental Engineering (EN)

For more information regarding field codes, please click here.

*Note: See **Ready, Set, Search!** for information and tips on Advanced and Command Searching on pages*

Field Codes Defined

The following field codes are found in the records of this database. Here they are listed in alphabetical order by two-letter code. See Field Codes and Search Examples for detailed descriptions and search examples.

AB = Abstract	ED = Editor	LA = Language	PR = Patent Priority Data
AF = Affiliation	EI = Electronic ISSN	MC = Material Classification	PT = Publication Type
AN = Accession Number	IB = ISBN	ML = Material	PY = Publication Year
AU = Author	IL = Illustrations	NR = Number of References	RE = References
CA = Corporate Author	IS = ISSN	NT = Notes	RL = Resource Location
CF = Conference	JC = Journal Coverage	NU = Other Numbers	RP = Report Number
CL = Classification	JC = Journal Issue	PA = Patent Application Data	SF = Subfile
DE = Descriptors	JN = Journal Name	PB = Publisher	SO = Source
DO = DOI	JV = Journal Volume	PC = Patent Country	TI = Title
EA = Email Address	KW = Keywords	PN = Patent Number	UD = Update

Tips:

- In some records, an author's name is followed by an *. This means that the organization and address in the Author Affiliation field belong to this author. You cannot search for this * because the search engine uses this symbol to truncate words. An Author Affiliation search for the organization can be conducted using af=(organization name).
- An ISBN search should be constructed without using hyphens, e.g. ib=0135052157, whereas an ISSN search should include hyphens and be placed in parentheses, e.g. is=(0146-3705).
- A Corporate Author (CA=) the name of the organization that has produced the original source document. This field is often present when there is no personal author field. Use the distinctive parts of the name when searching this field and do not search for designations such Corp, Co, Company, Ltd. etc, eg: ca=(national aerospace lab), ca=(NASA), or ca=(Astronomical Observatory, Uppsala (Sweden)).
- The Source field (SO=) contains bibliographic citation information. If the record describes a journal article, the source field in CSA Technology Research Database contains both the full title and the abbreviated journal title. To find the correct form of the abbreviated name, look in the Serials Source List, which is located in the database's factsheet. A source need not be a journal article. Conference proceedings also frequently populate the Source field.
- Classification codes and descriptors are broad subject headings that are specific to the CSA Technology Research Database. Again, classification codes can be found in 14 of

the 17 TRD subfiles. Due to the interdisciplinary nature of much of the material covered, one record may have several classifications. If you are already familiar with the database or have a code from a previous search and wish to find similar records, place the code or descriptive word(s) in the query box, e.g.: cl=(27 Nonmetallic Materials).

- When searching for conference information, use the CF= field, which provides the name of the conference and where and when it occurred. For faster retrieval, ignore the common words such as "annual or "annu" or "meeting" and search for the distinctive elements only, e.g. cf=(micropollutants and environment and 2000) when searching for "European Conference on Pesticides and Related Organic Micropollutants in the Environment", Ioannina (Greece), 5-8 Oct 2000.

7. Publication Types

CSA Technology Research Databases indexes 20 publication types that are searchable on *CSA Illumina* by either using the field code PT= followed by the name of the type, e.g., pt=map, or by going to the Search Tools tab, then the Indexes tab and choosing the Publication Type browsable index. Enter an 'a' in the Search the Index box, click Go and then you can see a list of all the types and can select the ones you want to search. The list of document types is as follows:

- Bibliography
- Book Monograph
- Computer
- Computer File
- Conference
- Dictionary
- Dissertation
- Drawing
- Film
- Journal Article
- Law or Statute
- Map
- Numerical Data
- Patent
- Report
- Review
- Sound Recording
- Standard
- Summary
- Training Manual

The publication types represented in CSA Technology Research Database by percentage:

Journal Articles:	57%
Conferences:	21%
Reports:	9%
Other (books, book chapters, etc.):	13%

*The results total under All Publication Types includes publications grouped under all other published work categories and does not include totals from the Scholars (a new tab introduced in 2005 currently for the Social Sciences) and Web Sites tabs.

Document Delivery

Fee-based document delivery for materials cited in the CSA Technology Research Database is supplied predominantly by the Linda Hall Library. For document availability, fee schedules, and ordering information, please visit http://www.lindahall.org/docserv/ or request information via e-mail at dispatch@lindahall.org

8. Language

Our databases contain records published in over 40 languages, *from over 60 nations*, and while most of the actual production takes place in the USA and UK, we have input centers in 41 countries. Four United Nations agencies (e.g. FAO) and another ten international organizations (e.g. IUCN) also contribute to our databases. Although more and more publishers provide English translations of the abstracts and article titles, our international input centers provide translations for local publications, and also transliterate languages that do not use the Roman alphabet.

The following languages are indexed in the CSA Technology Research Database:

- AFRIKAANS
- ARABIC
- ARMENIAN
- BELORUSSIAN
- BULGARIAN
- CHINESE
- CROATIAN
- CZECH
- DANISH
- DUTCH
- ENGLISH
- ESTONIAN
- FINNISH
- FLEMISH
- FRENCH
- GEORGIAN
- GERMAN
- GREEK
- HEBREW
- HINDI
- HUNGARIAN
- INDONESIAN
- ITALIAN
- JAPANESE
- KOREAN
- LITHUANIAN
- MACEDONIAN
- MALAY
- NEPALI
- NORWEGIAN
- PERSIAN
- POLISH
- PORTUGUESE
- ROMANIAN
- RUSSIAN
- SERBIAN
- SERBO-CROATIAN
- SLOVAK
- SLOVENIAN
- SPANISH
- SWAHILI
- SWEDISH
- TURKISH
- UKRAINIAN
- VIETNAMESE

9. Cited References

When available Cited References are included in records. Where possible, references are linked to abstract records that provide a more complete bibliographic description than the reference alone. Also where possible, references are linked to other items citing the same reference. The [Cited by x] hyperlink retrieves and displays these other items.

10. Selection and Indexing Policy

SELECTION

The inclusion of content in the CSA Technology Research Database is highly selective. Over 3,500 journals as well as monographs, government documents, and other reports are drawn from a wide range of print and electronic sources from 60 countries in over 40 languages. Content indexed in the CSA Technology Research Database is selected based on topical focus. CSA seeks to provide comprehensive coverage within each of its subject areas. Both print and electronic sources are indexed.

CSA Illumina specifically identifies and allows the user to search peer-reviewed publications. "Peer review" is the process through which experts in the field of study assess the quality of articles that are submitted to a publication. CSA Technology Research Database relies upon Ulrich's Directory of Periodicals to assign the peer-review status if that information is not otherwise provided by the publisher.

Under the selection policy of the CSA Technology Research Database, each publication is classified as Core, Priority, or Selective for each database in which it may be indexed. For example, a publication about metallurgy might be classified as Core for METADEX, and as Selective for each of the other TRD subfiles.

- Core sources – every substantive article is selected and indexed.
- Priority sources – on average more than 50 percent of the material is selected and indexed.
- Selective sources – on average less than 50 percent of the material is selected and indexed.

INDEXING

CSA employs human editors who add value to records by providing professional article selection, extensive quality control, and several levels of indexing, including Classification Codes (CL=) and Descriptors (DE=).

- C*lassification Codes* indicate subject specific codes in broad subject areas for each of the 14 of 17 CSA databases and individual TRD files.
- *Descriptors* chosen from the controlled vocabulary called Technology Terms are used to index all of the TRD components except Copper Data Center Database, Environmental Engineering Abstracts and WELDASEARCH. Each of the latter three is indexed with a controlled vocabulary specific to the file.

Note: For a complete list of the journals indexed in the database, click here.

11. Boolean Operators and Other Search Tools Supported by *CSA Illumina*

Boolean operators help define the relationships between words or groups of words.

AND	Use to narrow a search and retrieve records containing all of the words it separates
OR	Use to broaden a search and retrieve records containing any of the words it separates
NOT	Use to narrow a search and retrieve records that do not contain the term following it.
( )	Use to group words or phrases when combining Boolean phrases and to show the order in which relationships should be considered.

Proximity operators identify the number of words to come between the search terms.

WITHIN "X"	Use to narrow a search by specifying a proximity relationship of fewer than "X" words between search terms.
NEAR	Use to narrow a search by specifying a proximity relationship of fewer than 10 words between search terms.

Special symbols can expand the scope of your search.

*	Truncate using the wild card symbol. This expands a search term to include forms of a root word, e.g. satellite* retrieves satellites, satellite imagery, satellite instruments, satellite configurations, etc.
*	Find an unlimited number of characters within a word, e.g. alumin*um retrieves aluminum and aluminium.
?	Find alternative spellings. The ? represents any single character; ?? represents two characters and so on. Use within or at the end of a word, e.g. wom?n finds woman as well as women.

Note: Search queries containing several operators search in the following order:
( ), NEAR, NOT, AND, OR

12. Ready, Set, Search!

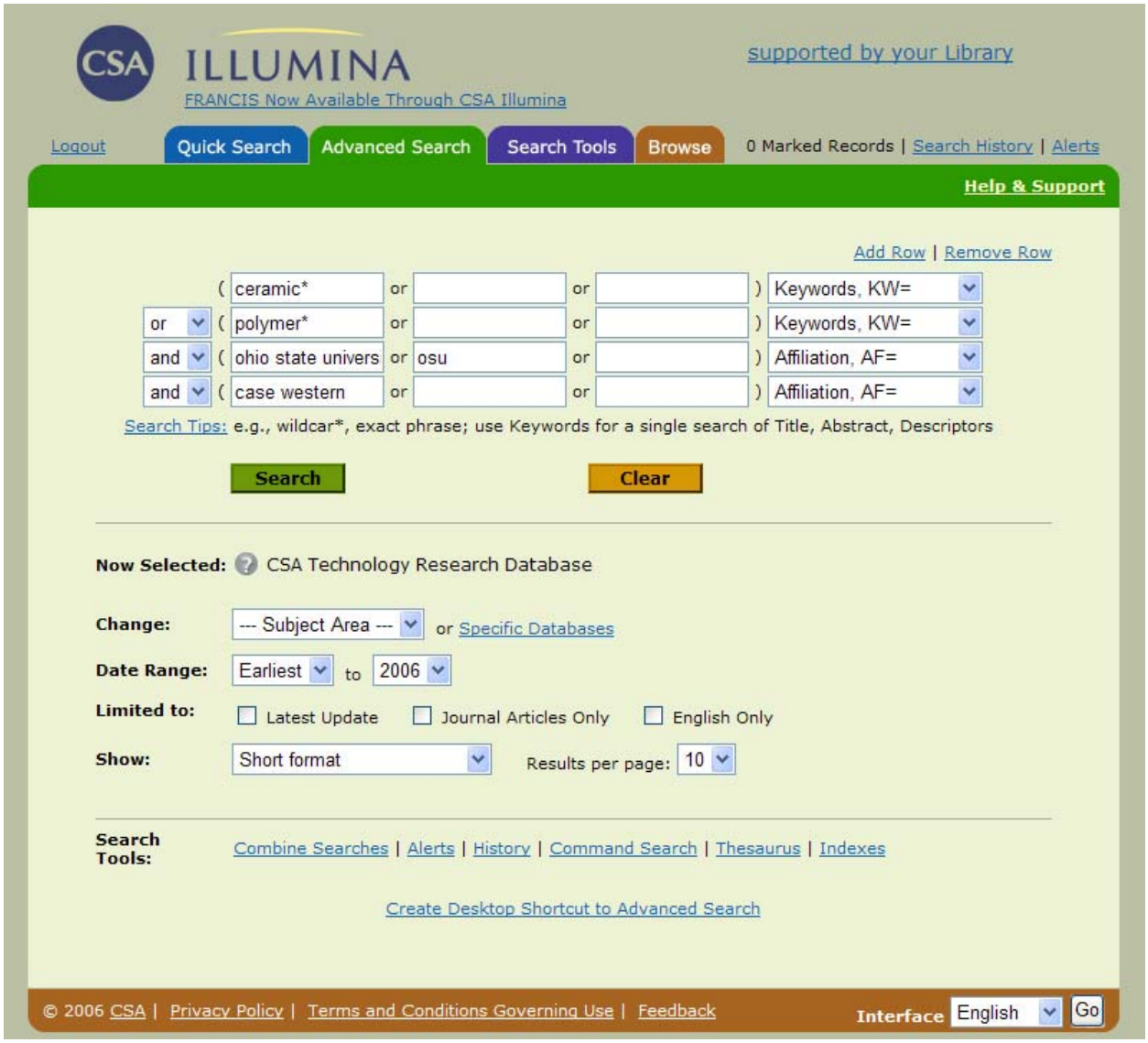
Using *CSA Illumina* to Search CSA Technology Research Database

Now that you have an understanding of what the CSA Technology Research Database is and how the searchable field codes and search tools function, you are now ready to search the database through *CSA Illumina*. Clicking on 'Help & Support' at any time will direct you to a context-specific Help page.

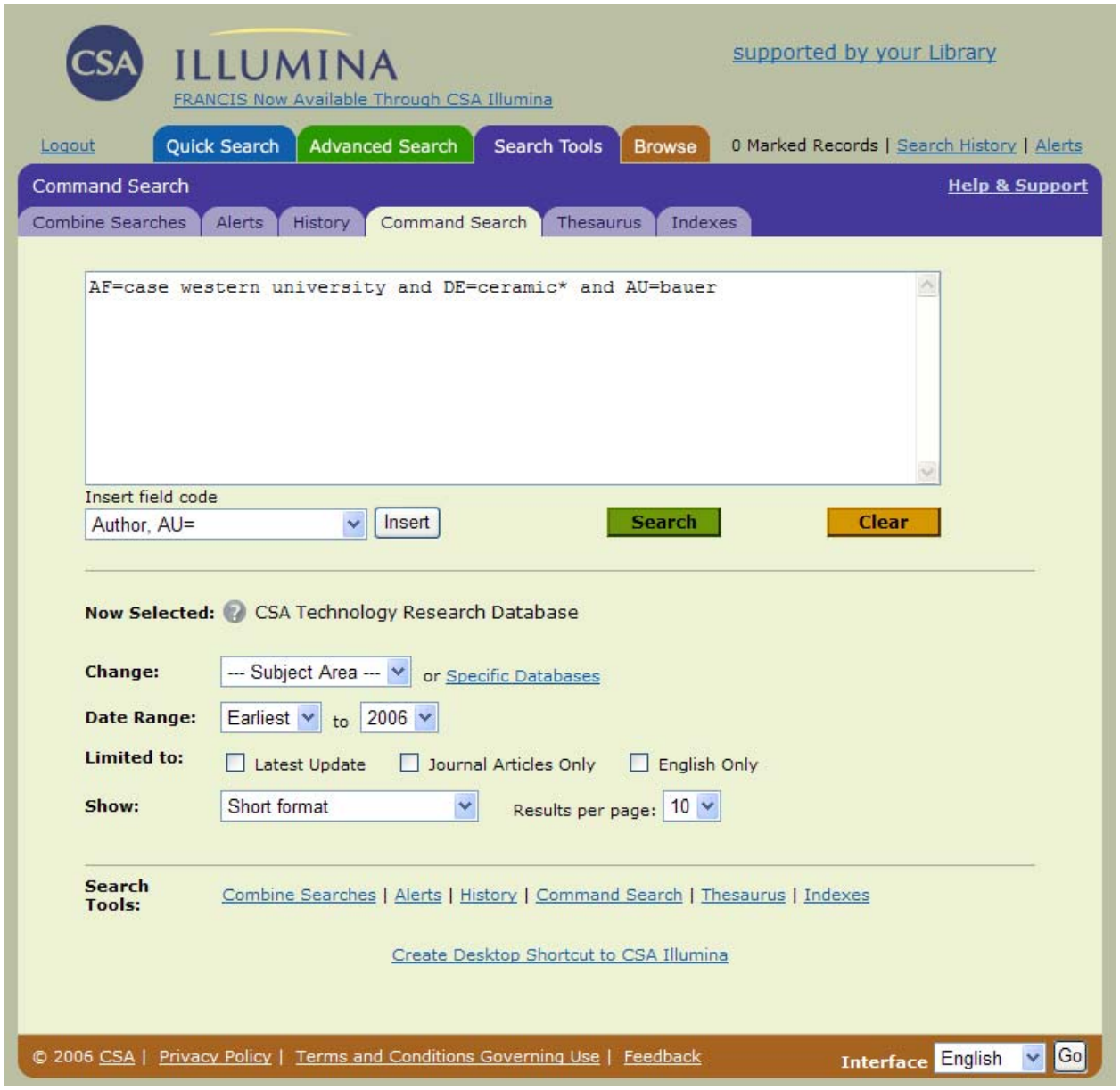
QUICK, ADVANCED, OR COMMAND SEARCHING
On *CSA Illumina*, search strategies can be applied using one of three approaches.

- *Quick Search* restricts your search to anywhere. An anywhere search searches across all of the available fields in a record. Multiple words entered into the search field, will be treated as a phrase and are not case sensitive (see below).

- *Advanced Search* gives you the advantage of being able to select any of the 40 field codes from a pull-down menu. The separate search boxes are formatted to include the Boolean Operators to help guide you in formatting your search (see below).



- *Command Search* may be preferred by advanced users who are comfortable entering search strategies that include field codes and nested logic without aid of a template (see below).



Note: Searches are not case sensitive.

LIMITS
Search strategies may be refined by using the following limits (available in 'Advanced Search' and 'Command Search'):

- *Latest Update* limits your results to include only the most recent records that were added to the database. CSA Technology Research Database is updated on a monthly basis.
- *Journal Articles Only* limits the search to only include the publication type of journal articles.
- *English Only* limits retrieval to sources published in English. CSA Technology Research Database includes source publications in over 40 languages. For non-English sources, English titles and abstracts are provided whenever possible, and the language of the source is identified in the indexed record.
- *By Publication Date* limits retrieval to a specific date range.

SORTING FEATURES
The sorting features give you the opportunity to order your results based on the publication date or relevancy.

- *Most Recent First* displays the records in order beginning with the most recent.
- *Relevance Rank* displays records in order based on relevancy. Relevancy is determined through a rating system that weighs the records based on the number of times the term(s) appear in the record and where they appear.

RECORDS DISPLAY

SHOW RECORDS
Select how to display records from the 'Show' pull-down menu. Options include displaying the short format, full format, full format-omit references, and custom format.

DUPLICATE RECORDS
CSA Illumina automatically removes any duplicate records, or 'de-dupes', that may appear in your set of results, displaying only the most complete record. You can use the 'Show Duplicates' feature to display the duplicates. This is especially useful when you are cross-database searching.

VIEWING RECORDS
When viewing records on *CSA Illumina*, notice that both the author name(s) and the associated descriptors are hyperlinked. Clicking the link will search the database for each occurrence of the selected author or descriptor.

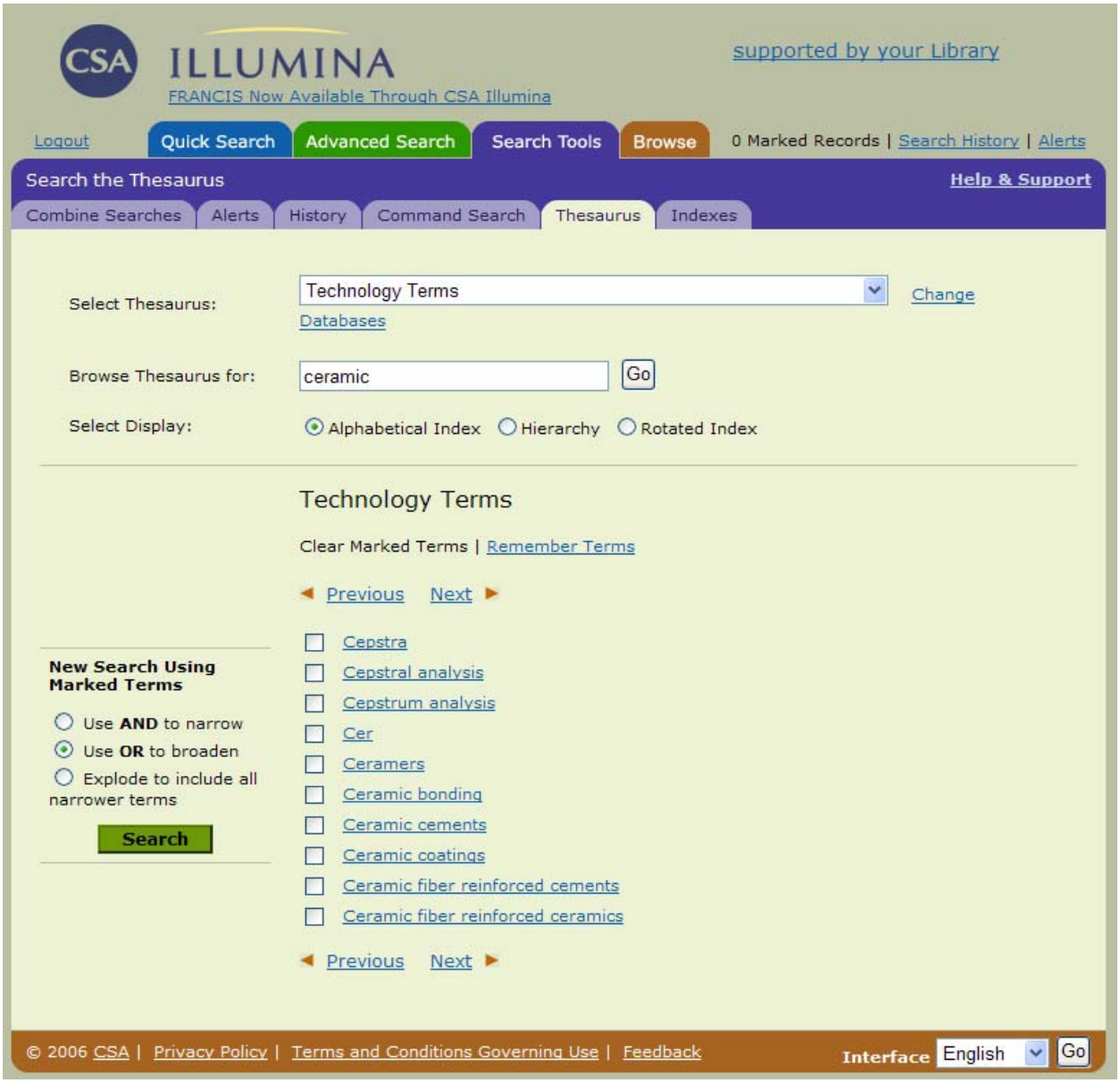
SAVING, PRINTING, and E-MAILING RECORDS
Saving, printing, and e-mailing records can be done by using the 'Save, Print, E-mail' function. This function also includes QuikBib, which creates a bibliography from a choice of 13 output styles most often used in academic settings. If the institution also subscribes to the bibliographic manager, RefWorks, search results can be directly exported.

13. Value-Added Features

CSA Illumina offers a number of value-added features to help with the search process and maximize the relevancy of search results.

Technology Terms List or Thesaurus Search

As of 2005, the CSA Technology Research Database is indexed using a master authority file of about 40,000 controlled-vocabulary Technology Terms. Older records in these databases were indexed using file-specific thesauri; these thesauri have now been incorporated into the Technology Terms file. Under the Search Tools, Thesaurus tab there is a drop-down menu which includes a few file-specific Thesauri as well as the Technology Terms list. This Terms list can be used with the alphabetical and rotated indexes display.



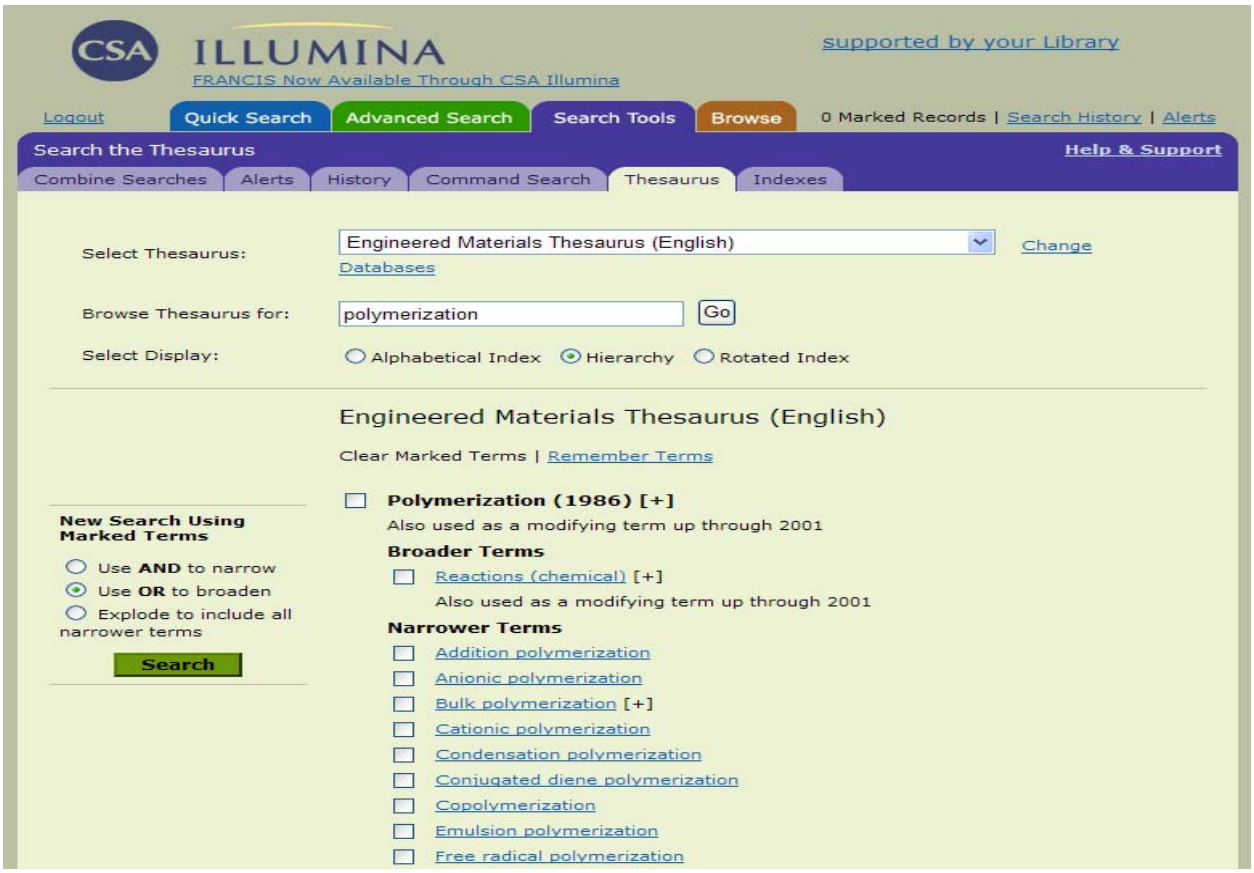
A number of file-specific thesauri are listed under the Search Tools, Thesaurus tab as well as the new Technology Terms file. They are:

- ANTE:Abstracts for New Technologies and Engineering
- Copper
- Engineered Materials
- Metallurgical
- NASA

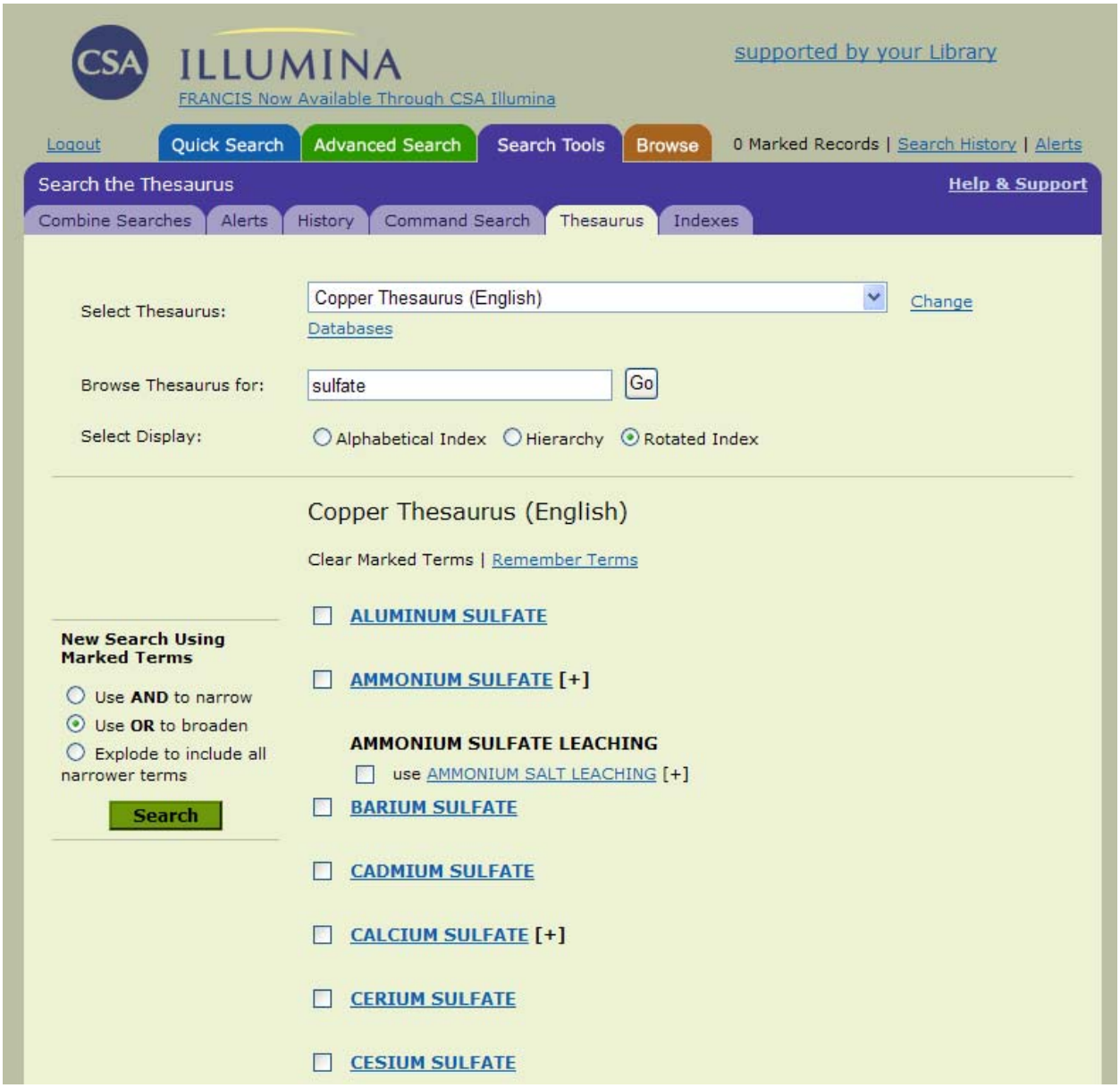
When using one of the file-specific thesauri you can take advantage of the three types of display: hierarchical, alphabetical, and rotated (or permuted) index.

- The *Alphabetical* display presents an alphabetical list of thesaurus or Technology Terms (see above).

- The *Hierarchy* display shows a term and its hierarchy, including its Scope and History Notes, its unique alphanumeric code, any Use For (UF) or Use directions, and its hierarchical relationships with Broader Terms (BT), Narrower Terms (NT), and Related Terms (RT). The Hierarchical display can be accessed by either selecting the radio button within 'Select Display' or by clicking the hyperlinked term within the alphabetical display of terms (see below).



- The *Rotated Index* (or *Permuted Index*) displays all thesaurus terms or phrases that contain the search term used, no matter where the word is found within a term – first word, middle word, or at the end. This display is most useful when you are unfamiliar with the subject area or are in need of a broad scope of reference to begin searching (see below).

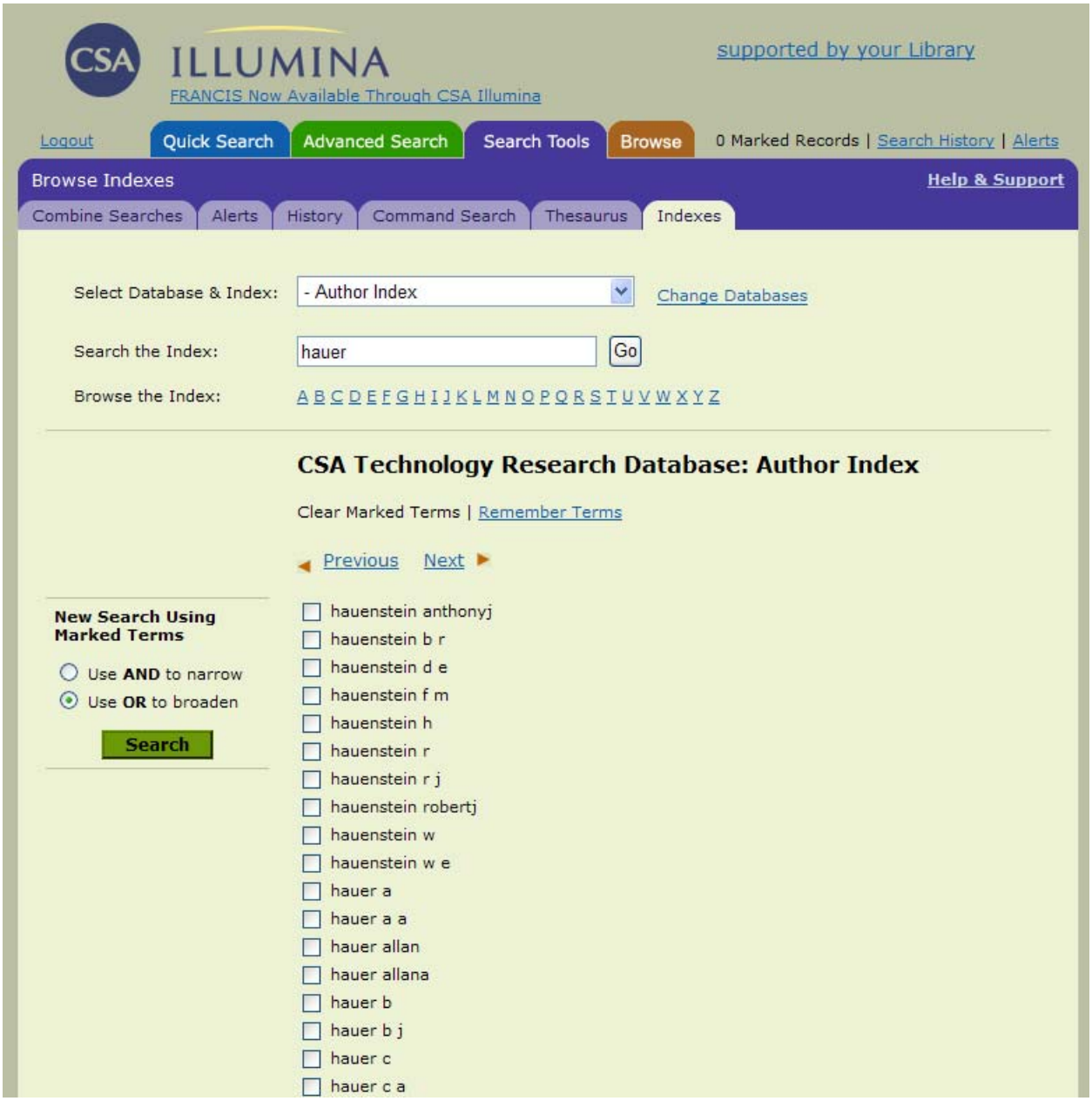


After finding the appropriate terms, you can search for those terms in CSA Technology Research Database using the Technology Term file or, if a file-specific thesaurus exists for the subfile you are searching, the Thesaurus Search Feature within the Search Tools.

Remembered (or *Marked*) *Terms* can be selected and searched from any of the displays, applying AND, OR, or Explode operators, and setting limits as defined above.

BROWSABLE INDEXES

A browsable index is an alphabetical listing of terms used in a specific field of a database. You can browse this list to see, for example, various spellings of author names, what types of publications are covered by a particular database, or the names of journals indexed in a certain database. After finding appropriate terms, you can then submit a search for those terms. Searches may also be activated through three browsable indexes: Author, Journal Name, and Publication Type.



14. The Research Process

I) How to begin the electronic research process

A. Determine your goals:

1. State your research question:

   "How has the use of polymers and ceramics affected corrosion in the automotive and aerospace industries?"

2. Set parameters for your search (i.e. location, range of time, scientific names, technology types, etc.)

   "Looking at these industries in North America for the last 10 years, has the use of these materials changed the problem of corrosion?"

B. Identify general concepts:

1. Which general terms relate to your search?

   "polymers"; "ceramics"; "corrosion"; "automotives"; "aerospace"; "United States"

C. Choose the appropriate database

1. Are there specific journals, reports, or abstracts that specialize in polymers or ceramics?

   In this case you will be searching the entire CSA Technology Research Database including all its 17 files and subfiles. In order to see results from the individual files and subfiles you will need, when selecting databases to search, to expand the whole of TRD and select each file and subfile. Displaying the expanded view of the search results will let you see which files and subfiles have greater relevance and more related content to your search query. By clicking on an individual file or subfile just those search results will be displayed and you will be able to determine more specific journals, etc. that specialize in polymers and/or ceramics.

2. Are any of these journals covered in CSA Technology Research Database full-text collection database(s)? What other resources are available on the Web Resources Database?

   There are many CSA full-text linking partners that have journals that are covered in the Technology Research Database (see a list of linking partners by clicking on the Administrative Tools link off of the CSA Homepage).

II) Build your search strategy:

A. Quick search:

Enter phrase or multiple search terms separated by Boolean operators AND to link terms, OR to link similar words or synonyms:

"(polymer* OR ceramic*) AND corrosion AND (automo* OR aerospace*)**"** in the Quick Search box

Note: As we are searching the entire CSA Technology Research Database we will be using the Technology Term list which applies to all of the files included in the TRD. This term list is not a true thesaurus so each term included in the list represents <u>just</u> its own single concept.

B. Advanced Search:

The drop boxes allow you to limit the search by any of the searchable field codes including Keyword (KW), Author (AU), Journal Name (JN), Descriptor (DE), Abstract (AU), or Title (TI). You can also limit your search to specific publication years and choose the record format. The descriptor field (DE) and abstract field (AB) will allow you to narrow down your search even more by locating specific descriptors and key words in the abstract.

Example: If you wanted to limit your search to literature in French try:
kw=((polymer*)) AND kw=(ceramic*) AND la=(french)

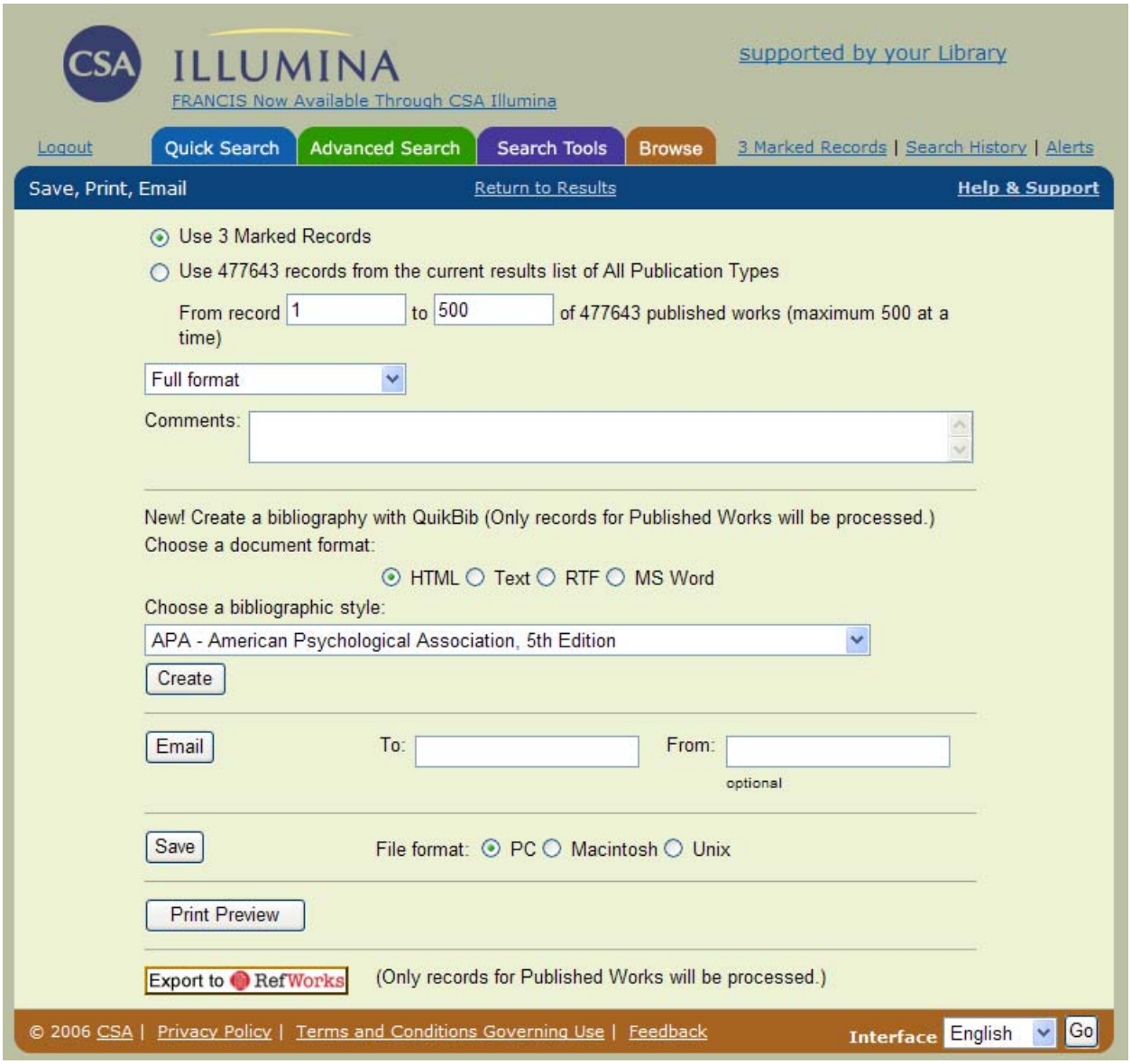
III) Analyzing Results

A. Good results:

If results are satisfactory, then Save, Print, E-mail citations, download them to a bibliographic manager such as RefWorks, or output them via CSA's QuikBib, which allows CSA Illumina users to easily generate a bibliography of selected database records in thirteen of the most popular bibliographic styles. The available bibliographic styles are listed below.

- APA - American Psychological Association, 5th Edition
- APA, Annotated with Abstracts, American Psychological Association, 5th Edition -
- AMA - American Medical Association, 9th Edition
- ASA – American Sociological Association, 2nd edition
- Chicago Manual of Style, 15th Edition (Author-Date System)
- Council of Biology Editors – CBE 6th, Citation-Sequence
- Council of Biology Editors – CBE 6th, Name-Year Sequence
- Harvard
- Harvard – British Standard
- MLA, 6th Edition
- MLA, 6th Edition - With subscriber information
- Turabian, 6th Edition - Reference List
- Uniform - Uniform Requirements for Manuscripts Submitted to Biomedical Journals

The ‘Save, Print, Email’ feature is located at the top of the results page following the ‘Mark or Clear all on page’ and ‘Update Marked List’ links (see below).



B. If results are not on target:
   1. Check spelling of search terms and use the Technology Term list or browsable indexes to discard unnecessary or misleading terms.
   2. Increase precision: For example, if you want to emphasize the scientific terminology in the search query (i.e. You may have to search “corrosion” as a descriptor (DE) rather than as a word in the title of the article using a keyword (KW) search. Also, selecting more specific terms may provide more accurate results.
   3. You may need to rethink whether the database you selected is appropriate for your search.

C. Too few/too many results:

1. Increase retrieval by using a broader or more inclusive term or concept

   Example: kw=construction materials AND corrosion

2. Increase precision by using additional ANDs and fewer ORs (NOT can be used to exclude some terms)

   Example: kw=(polymer* AND ceramic*) AND corrosion