



# Controlled Terms (CT) in the Various Databases – How to Explore and how to Use

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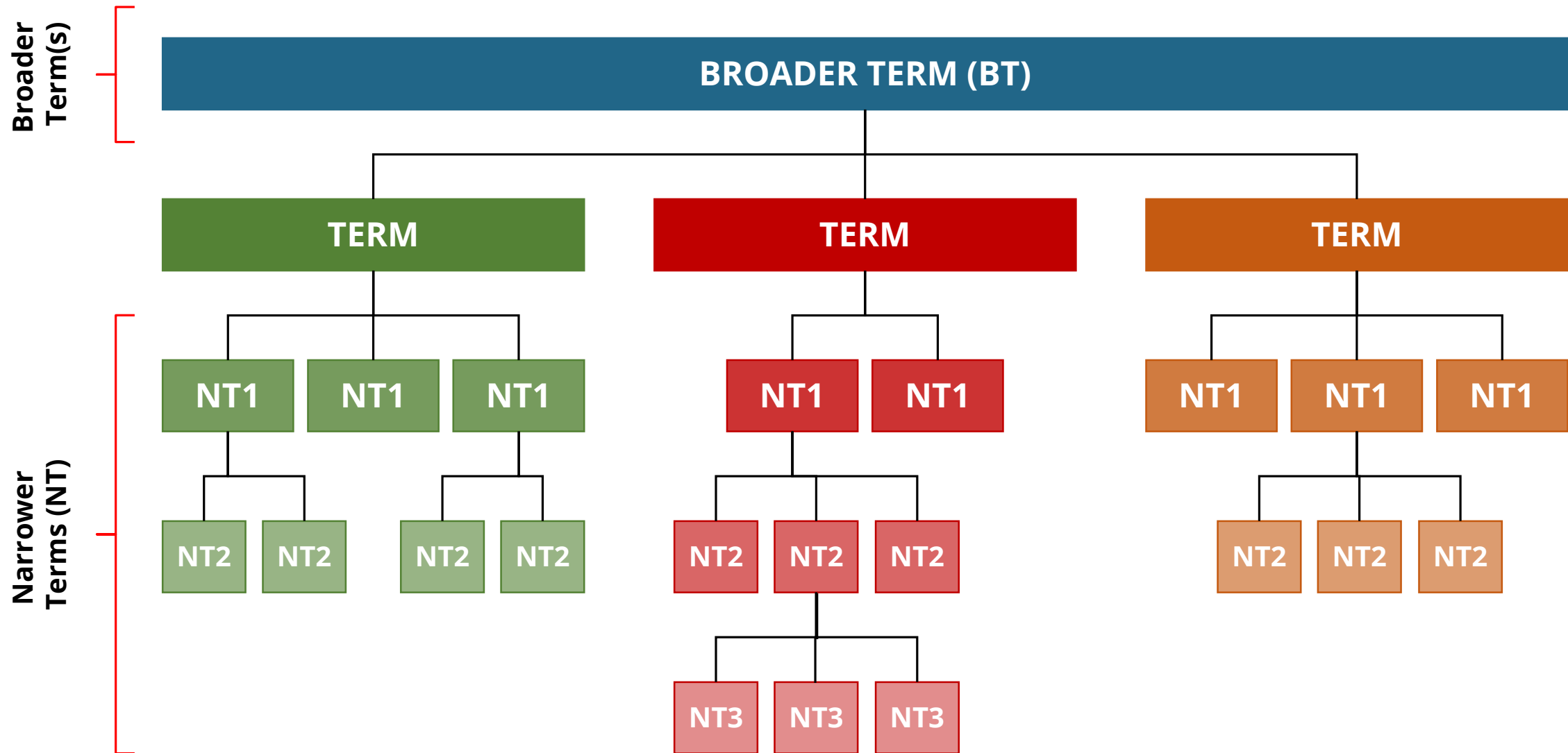
# Agenda

- Thesauri on STNext
- How to find thesauri?
- How to find information on thesauri in a database?
- Example 1: CONTROLLED TERMS in INSPEC
- Example 2: CONTROLLED TERMS in EMBASE

*Thesauri in general and other thesauri are discussed in this presentation as well.*



# Thesauri are hierarchically arranged registers



# Thesauri are hierarchically arranged registers

Broader  
Term(s)

- While **title** and **abstract** usually **reflect the wording of the original document**, **keyword indexing** uses **highly controlled vocabulary**.
- The terminology used can be looked up in thesauri.
- Thesauri are file specific!

Narrower  
Terms (NT)

## Thesauri are useful tools to:

- Retrieve relevant records with different terminology but the same concept
- Find synonyms, more generic terms or more specific terms in order to develop a precise search strategy
- Automatically search complete hierarchies of thesaurus terms

NT3

NT3

NT3

r1

# STNGUIDE – searching for information (1/2)

- The database STNGUIDE provides information about content data and pricing of all files on STNext

=> FIL STNGUIDE

=> S THESAUR?

L1 73 THESAUR?

=> D 1-73 DBN

L1 ANSWER 1 OF 73 STNGUIDE COPYRIGHT 2020 ACS on STN

DBN DEFULL - DEFULL covers the full text of patent applications and granted patents published in Germany.

L1 ANSWER 2 OF 73 STNGUIDE COPYRIGHT 2020 ACS on STN

DBN KRFULL - KRFULL covers full-text of patent applications, granted patents, and utilities models published by the Korean Intellectual Property Office in the Republic of Korea

L1 ANSWER 3 OF 73 STNGUIDE COPYRIGHT 2020 ACS on STN

DBN INFULL - INFULL covers the full text of patent applications and granted patents published in India.

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**Basic Index of STNGUIDE** contains single words from the following fields: DBN, DESC, SUBJ, CC, SI, UA, PROD, SUPP, LA, SFIELD, PROP, DFIELD, and TFIELD – **fields describing all the databases on STNext.**

# STNGUIDE – searching for information (2/2)

- The database STNGUIDE provides information about content data and pricing of all files on STNext

=> **FIL STNGUIDE**

=> **S THESAUR?**

L1            73 THESAUR?

=> **SEL L1 DBN**

E1 THROUGH E73 ASSIGNED

=> **D SEL E1-**

E#	FILE	FREQUENCY	TERM
--	----	-----	----
E1	STNGUIDE	1	AEROSPACE/DBN
E2	STNGUIDE	1	AGRICOLA/DBN
E3	STNGUIDE	1	APOLLIT/DBN
E4	STNGUIDE	1	AUPATFULL/DBN
E5	STNGUIDE	1	BIOSIS/DBN
E6	STNGUIDE	1	BIOTECHABS/DBN
E7	STNGUIDE	1	BIOTECHDS/DBN
E8	STNGUIDE	1	CA/DBN
E9	STNGUIDE	1	CABA/DBN
E10	STNGUIDE	1	CANPATFULL/DBN
...			

For a compact view of the database names use SELECT on database names (/DBN) and display D SEL E1-

The SELECT command extracts terms and sorts them according to frequency in the answer set, and by alphabet.

# STNGUIDE – searching for available fields

=> **FIL STNGUIDE**

=> **S CT/TFIELD**

L2            34 CT/TFIELD

=> **S CT/SFIELD**

L3            74 CT/SFIELD

Not all search fields for CONTROLLED TERMS (CT) are based on hierarchical thesauri. "Flat" CT-fields can be expanded as well.

TFIELD – Thesaurus Field  
SFIELD – Search Field

=> **S ORGANISM/TFIELD**

L4            2 ORGANISM/TFIELD

=> **S ORGANISM/SFIELD**

L5            10 ORGANISM/SFIELD

=> **S IPC/TFIELD**

L6            40 IPC/TFIELD

=> **S CPC/TFIELD**

L7            26 CPC/TFIELD

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=> HELP THESAURUS  
Database Summary Sheets  
Contact STN Helpdesk





# HELP THESAURUS – file specific information on thesauri

=> **FIL INSPEC**

=> **HELP THESAURUS**

A **physical properties thesaurus (/PHT)**, **controlled term thesaurus (/CT)**, and the **International Patent Classification (/IPC)** are available online in the INSPEC file.

When you request an alphabetic EXPAND in the /PHP, /CT, or /IPC fields, a column labeled AT (Associated Terms) will be included indicating the number of terms that are associated with the EXPAND term.

You may also use the EXPAND command to request a display of hierarchies of terms in a thesaurus. Use the EXPAND command with a term, followed by a plus symbol, (+), a Relationship Code, and the field code /PHP, /CT, or /IPC respectively, e.g.

=> E CURRENT+ALL/PHP

=> E ACOUSTIC TRANSDUCERS+ALL/CT.

To use a thesaurus to automatically include additional Narrower, Broader, Related, or other terms in a search, enter the SEARCH command with a term, followed by a plus symbol, (+), a Relationship Code, and the field code, e.g.

=> S ACOUSTIC TRANSDUCERS+NT/CT.

...

# The Database tab: condensed summaries in STNext

History | CAS Lexicon | **Databases**

View Databases | Clusters | Clear | Collapse All

- IFIREF
- IMSRESEARCH
- INFULL
- INPADOCDB
- INPAFAMDB
- INSPEC**
- INSPHYS
- IPA
- JAPIO

Enter

**INSPEC** | View Databases | Clusters | Clear

[Download Database Summary Sheet PDF](#)

**Subject Coverage**

- Atomic and molecular physics
- Circuit theory and circuits
- Classical areas of phenomenology
- Communications
- Components, electronic devices and materials
- Computer applications
- Computer hard- and software
- Condensed matter: structure, mechanical properties, electronic structures, electrical, magnetic, and optical properties
- Control technology

# The Database tab: condensed summaries in STNext

The screenshot shows the STN Databases interface. At the top, there are tabs for 'History', 'CAS Lexicon', and 'Databases'. Below the tabs is a search bar and navigation options: 'View Databases | Clusters', 'Clear', and 'Collapse All'. A list of databases is visible, with 'INSPEC' selected. A dark overlay box contains the text 'INSPEC' and 'Download Database Summary Sheet PDF'. The main content area features the STN logo and the title 'INSPEC Controlled Term (/CT) Thesaurus'. Below the title is a paragraph: 'All Relationship Codes can be used with both the SEARCH and EXPAND command.' A table follows, detailing relationship codes and their examples.

Code	Content	Examples
ALL	All Associated Terms	E ALUMINIUM COMPOUNDS+ALL/CT
AUTO (1)	Automatic Relationship (SELF, USE, UF)	S POWDER SPRAYING+AUTO/CT
BT	Broader Terms (also BT1, BT2 etc. possible)	E TERBIUM ALLOYS+BT/CT
HIE	Hierarchy (all Broader and Narrower Terms)	E SHOCK WAVES+HIE/CT

# Snapshot from an INSPEC record

TI All-optical probe of magnetization precession modulated by spin-orbit torque

CC A7560E Magnetization curves, hysteresis, Barkhausen and related effects; A7570C Interfacial magnetic properties; A7820L Magneto-optical effects (condensed matter); A7847 Ultrafast optical measurements in condensed matter; A8115C Deposition by sputtering; A6855 Thin film growth, structure, and epitaxy; A7170E Spin-orbit coupling, Zeeman, Stark and strain splitting (condensed matter); A7550R Magnetism in interface structures  
C22C0038/00 Ferrous alloys, e.g. steel alloys  
C22C0019/00 Alloys based on nickel or cobalt  
C23C0014/34 Sputtering  
H01F0010/00 Thin magnetic films, e.g. of one-domain structure  
H01F0013/00 Apparatus or processes for magnetising or demagnetising  
H01S0003/091 Using optical pumping

CT boron alloys; cobalt alloys; interface magnetism; iron alloys; Kerr magneto-optical effect; magnesium compounds; magnetic thin films; magnetisation; optical pumping; spin-orbit interactions; sputter deposition; time resolved spectra; tungsten

ST laser-induced magnetization precession; in-plane direct current; precession frequency; current-induced spin-orbit torque; all-optical time-resolved magneto-optical Kerr effect microscopy; damping modulation; W-CoFeB-MgO micron-sized strip; magnetic thin films; DC-RF magnetron sputtering; W-CoFeB-MgO; Si-SiO<sub>2</sub>

IPC C22C0038-00; C22C0019-00; C23C0014-34; H01F0010-00; H01F0013-00; H01S0003-091

CLASSIFICATION CODES (CC) with 5 level hierarchy - **CONTROLLED (no thesaurus)**  
Field includes IPC codes + text

CONTROLLED TERMS (CT) - **CONTROLLED**

SUPPLEMENTARY TERMS (ST) with phrases to show all significant concepts. Benefit: **indexing of new technologies with no CTs (yet)**

Non patent literature records contain IPC classification - **CONTROLLED**

# CONTROLLED TERMS (CT) in INSPEC (1/2)

=> E INTEGRATED CIRCUITS/CT

E#	FILE	FREQUENCY	AT	TERM
--	----	-----	--	----
E1	INSPEC	37633	22	INTEGRATED CIRCUIT TESTING/CT
E2	INSPEC	5665	17	INTEGRATED CIRCUIT YIELD/CT
E3	INSPEC	9645	175 -->	INTEGRATED CIRCUITS/CT
E4	INSPEC	181	2	INTEGRATED CONTROL SYSTEMS/CT
E5	INSPEC	0	2	INTEGRATED DEVELOPMENT ENVIRONMENTS/CT
E6	INSPEC	0	2	INTEGRATED HORN ANTENNAS/CT
E7	INSPEC	384	13	INTEGRATED INJECTION LOGIC/CT
E8	INSPEC	10929	40	INTEGRATED LOGIC CIRCUITS/CT
E9	INSPEC	461	15	INTEGRATED MANUFACTURING SYSTEMS/CT
E10	INSPEC	10322	32	INTEGRATED MEMORY CIRCUITS/CT
E11	INSPEC	45040	30	INTEGRATED OPTICS/CT
E12	INSPEC	0	2	INTEGRATED OPTOELECTRONIC CIRCUITS/CT

Column **AT** = **ASSOCIATED TERMS**  
points at thesaurus entries

# CONTROLLED TERMS (CT) in INSPEC (1/2)

=> E E3+ALL

Explore the term „Integrated Circuits“ further using a relationship code.

E#	FILE	FREQUENCY	TERM
--	----	-----	----
E13	INSPEC	6034	BT1 networks (circuits)/CT
E14	INSPEC	9645	--> integrated circuits/CT
			DA January 1969
E15	INSPEC	0	UF IC/CT
E16	INSPEC	0	UF microcircuits/CT
E17	INSPEC	445	UF microelectronics/CT
E18	INSPEC	4243	NT1 analogue integrated circuits/CT
E19	INSPEC	1748	NT2 BiCMOS analogue integrated circuits/CT
E20	INSPEC	973	NT2 bipolar analogue integrated circuits/CT
E21	INSPEC	217	NT2 field effect analogue integrated circuits/CT
E22	INSPEC	538	NT3 MOS analogue integrated circuits/CT
E23	INSPEC	16363	NT4 CMOS analogue integrated circuits/CT
E24	INSPEC	10295	NT1 digital integrated circuits/CT
E25	INSPEC	417	NT2 BiCMOS digital integrated circuits/CT
E26	INSPEC	263	NT3 BiCMOS logic circuits/CT
E27	INSPEC	96	NT3 BiCMOS memory circuits/CT
E28	INSPEC	289	NT2 bipolar digital integrated circuits/CT
E29	INSPEC	272	NT3 bipolar logic circuits/CT
E30	INSPEC	185	NT3 bipolar memory circuits/CT
E31	INSPEC	7771	NT2 cellular arrays/CT
E32	INSPEC	3577	NT3 systolic arrays/CT
E33	INSPEC	147	NT2 field effect digital integrated circuits/CT
...			

BT ... broader term  
 DA ... date (starting date)  
 UF ... used for (forbidden, synonyms)  
 NT1 ... narrower term, level 1

# Compact display with +NT1

=> E E3+NT1

E#	FILE	FREQUENCY	TERM
--	----	-----	-----
E189	INSPEC	9645	--> integrated circuits/CT
E190	INSPEC	4243	**NT1 analogue integrated circuits/CT
E191	INSPEC	10295	**NT1 digital integrated circuits/CT
E192	INSPEC	3993	**NT1 high-speed integrated circuits/CT
E193	INSPEC	7862	NT1 hybrid integrated circuits/CT
E194	INSPEC	23906	NT1 integrated optoelectronics/CT
E195	INSPEC	12708	**NT1 monolithic integrated circuits/CT
E196	INSPEC	6135	NT1 power integrated circuits/CT
E197	INSPEC	5408	**NT1 radiofrequency integrated circuits/CT
E198	INSPEC	1174	**NT1 superconducting integrated circuits/CT
E199	INSPEC	2581	NT1 thick film circuits/CT
E200	INSPEC	2146	NT1 thin film circuits/CT
***** END *****			

**+NT1** to show only narrower terms at level 1. Particularly relevant if there are many sub-concepts.

# Include narrower terms in your search with S ..+NT/CT

=> E E3+NT1

E#	FILE	FREQUENCY	TERM
---	----	-----	----
E189	INSPEC	9645	--> integrated circuits/CT
E190	INSPEC	4243	**NT1 analogue integrated circuits/CT
E191	INSPEC	10295	**NT1 digital integrated circuits/CT
...			

=> S E189

L1 9645 "INTEGRATED CIRCUITS"/CT

=> S E190

L2 4243 "ANALOGUE INTEGRATED CIRCUITS"/CT

=> S L1 AND L2

L3 2 L1 AND L2

=> S E189+NT

L4 526413 "INTEGRATED CIRCUITS"+NT/CT (86 TERMS)

Indexing is as specific/narrow as possible. Thus narrower terms are not automatically included in broader terms.

S ...+NT/CT searches for term in E189 plus all narrower terms at all levels. This example uses 86 terms for searching.



# HELP RCODES to show available relationship codes

=> HELPR RCODE

...

Thesauri and HELP RCODE are file specific

Field	Relationship Code	Content
/CT	ALL	All Associated Terms
	AUTO	1) Automatic Relationship (SELF, USE, UF)
	BT	Broader Terms (also BT1, BT2 etc. possible)
	HIE	Hierarchy (all Broader and Narrower Terms)
	KT	Keyword Terms (Multi-word Phrases containing the specified Keyword Term)
	NOTE	2) Notes associated with Terms (SELF, DA, CC)
	NT	Narrower Terms (also NT1, NT2 etc. possible)
	PFT	All Preferred, Forbidden Terms, and Dates (SELF, DA, USE, UF)
	PT	Prior Terms
	RT	Related Terms (see also)
	STD	Standard (all Broader, Narrower, Related, and Prior Terms)
	UF	Used For (Preferred and Forbidden Terms)
	USE	Use (Forbidden and Preferred Terms)

# Major terms to focus on main concepts

=> **FIL EMBASE**

...

TI Cracking a cancer code histone deacetylation in epigenetic: the  
implication from molecular dynamics simulations on efficacy assessment of  
histone deacetylase inhibitors.

CT Medical Descriptors:  
article  
binding site  
clinical practice  
clinical research  
\*deacetylation  
\*drug efficacy  
enzyme activity  
\*epigenetics  
human  
\*malignant neoplasm  
\*molecular dynamics  
surface area  
\*abexinostat  
amino acid  
belinostat  
dacinostat  
endogenous compound  
\*histone  
\*histone deacetylase

...

## Major terms/headings mark the core concepts of a document.

Articles in EMBASE have an average of 3-4 major terms and up to 50 minor terms are possible.

Major terms are searchable:

S HISTONE DEACETYLASE/CT	15400
S *HISTONE DEACETYLASE/CT	4233

Other database might have other guidelines, e.g. COMPENDEX lists one major term per record.

# Key takeaways

- **Information on thesauri**
  - in database STNGUIDE and database summary sheets
  - with file-specific HELP THESAURUS and HELP RCODES
  - also at the STN Helpdesk
- **Associated terms (AT)** indicate an hierarchical thesaurus
- **Include narrower terms in your search with S ..+NT/CT**
- More relationship codes available, see HELP RCODES
- Use **major terms/headings** to restrict your search to the key concepts of documents



# Contact Us



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