



# STN<sup>®</sup>

## Sources and Techniques for Basic Citation Searching on STN

Jan Baur – FIZ Karlsruhe





STN is available through FIZ Karlsruhe, Germany  
and Chemical Abstracts Service, U.S.A.

# Agenda

- The principles of citations
- Databases with citation information on STN
- Everyday searching
  - Simple reference searching
  - Impact of publications
  - Competitor analysis
  - Identify key patents
- Summary

patent Non-patent

## What is a citation? (Patent)

- Reference to a previous work (prior art) that is considered relevant to current patent application in hand (patent or non-patent)
- Location of citations: front (e.g. US) or back (e.g. EP)
- Premise for patent citation searching:
  - patent document cites an **earlier publication** 
  - patent document is cited by a **subsequent publication** 
  - This patent document and the earlier and/or subsequent publications are related by subject matter
- Sources of citation: applicant, examiner, opposition, third party

# US granted patents: cited references on front page

(12) **United States Patent**  
**Palmer**

(10) I  
(45) I

**Inventor citations**

**Examiner citations (\*)**

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/991,018**

(22) Filed: **Nov. 16, 2001**

(51) Int. Cl.<sup>7</sup> ..... **F16K 25/00**

(52) U.S. Cl. .... **251/186; 251/191; 251/264; 251/357**

(58) **Field of Search** ..... 251/176, 186, 251/191, 264, 357

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

2,574,054 A	11/1951	Miller	
2,839,265 A *	6/1958	Hobbs .....	251/191
2,918,078 A	12/1959	Cummings	
3,211,418 A	10/1965	Lohr	
3,211,419 A *	10/1965	Lohr .....	251/191
3,612,479 A *	10/1971	Smith, Jr. ....	251/191
3,804,365 A *	4/1974	Fetterolf et al. ....	251/186
4,073,308 A *	2/1978	Stith, Jr. ....	251/191
4,815,698 A *	3/1989	Palmer .....	251/176

**ABSTRACT**

An adaptor is for a rising disc valve which has a handle for rotating a stem in a housing bore having a shoulder and which displaces a disc valve member which seals against a frusto-conical housing seat spaced from the shoulder. A stack of Belleville-steel springs is between the disc member and the ring seal. An interface ring is between the springs and the ring seal. As the disc member is seated in its valve seat, a ring at the attachment member abuts the shoulder. The attachment member can no longer axially displace and compressively loads the springs as the disc member is further axially displaced to the valve closed state. The compressive load on the ring seal expands the seal radially outwardly against the housing bore and radially inwardly against the piston shank.

**16 Claims, 5 Drawing Sheets**

# EP patents: citations appear in Search Report of published applications


 Europäisches Patentamt  
 European Patent Office  
 Office européen des brevets

(11) EP 0 786 399 A3

(12) EUROPEAN PATENT APPLICATION

(88) Date of publication A3: 01.10.1997 Bulletin 1997/40 (51) Int. Cl.<sup>6</sup>: B62M 23/02

(43) Date of publication A2: 30.07.1997 Bulletin 1997/31

(21) Application number: 97101373.5

(22) Date of filing: 29.01.1997

(84) Designated Contracting States: DE DK ES FR GB IT NL (72) Inventor: Miyata, Syoichiro Iwata-shi, Shizuoka-ken (JP)

(30) Priority: 29.01.1996 JP 12973/96 (74) Representative: Grünecker, Kinkeldey, Stockmair & Schwanhäusser Anwaltssozietät München/Wiesbaden/Paris

(71) Applicant: YAMAHA HATSUDOKI KABUSHIKI KAISHA

DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
X	EP 0 590 674 A (YAMAHA)  * column 6, line 56 - column 7, line 8 * ---	1-3, 13-15
X	US 4 062 421 A (WEBER) * the whole document *	1,13

Examiner citations

EP 0 786 399

FIGURE 1

Printed by Rank Xerox (UK) Business Services © 14.10.04

EP 0 786 399 A3

European Patent Office EUROPEAN SEARCH REPORT Application Number EP 97 10 1373

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
X	EP 0 590 674 A (YAMAHA)  * column 6, line 56 - column 7, line 8 * ---	1-3, 13-15	B62M23/02
X	US 4 062 421 A (WEBER) * the whole document *	1,13	
A	PATENT ABSTRACTS OF JAPAN vol. 096, no. 003, 29 March 1996 & JP 07 309283 A (YAMAHA MOTOR CO LTD), 28 November 1995, * abstract *	1-3, 13-15	TECHNICAL FIELDS SEARCHED (Int.Cl.4)  B62M
A	PATENT ABSTRACTS OF JAPAN vol. 095, no. 009, 31 October 1995 & JP 07 143603 A (AQUEOUS RES:KK), 2 June 1995, * abstract *	1,13	
A	PATENT ABSTRACTS OF JAPAN vol. 095, no. 011, 26 December 1995 & JP 07 196070 A (RIKEN CORP), 1 August 1995, * abstract *	1,13	
A	EP 0 569 954 A (YAMAHA MOTOR CO LTD) * the whole document * -----	1,13	

The present search report has been drawn up for all claims

Place of search THE HAGUE	Date of completion of the search 8 August 1997	Examiner Denicolai, G
------------------------------	---	--------------------------

Applicants citations follow afterwards, but are not necessarily complete.

## What is a citation? (non-patent)

- Non patent: reference to a source that is mentioned in the publication
- Cited document: a patent or a non-patent publication, e.g. a scientific journal article
- Who cites: the author
- Location of citations: typically at the end of publications

# Scientific journal article: citation example

PAPER

www.rsc.org/pccp | Physical Chemistry Chemical Physics

## Quantum-mechanical wavepacket propagation in a sparse, adaptive basis of interpolating Gaussians with collocation

J. Sielk,<sup>a</sup> H. F. von Horsten,<sup>a</sup> F. Krüger,<sup>b</sup> R. Schneider<sup>b</sup> and B. Hartke<sup>\*a</sup>

Received 19  
First published  
DOI: 10.10

We present  
[B. Hartke,  
representati  
Here we en  
optimize it  
improvement  
was impleme  
calculating  
three-dimer  
approach sa  
the efficien  
dynamics in  
arbitrary sy  
Hamiltonian  
wavepacket

### I. Intro

Exact quant  
in chemical  
methods an  
classical ph  
are often j  
quantum dy  
are importa  
natural des  
multiple co  
In traditi  
dynamics is  
standard re  
with the nu  
exact quant  
been essent  
10 years no  
meantime.

A promi  
configurati  
It expands  
adapted pr  
tion to mar  
coupled de  
quantum w  
freedom<sup>4-6</sup>

<sup>a</sup>Institut für  
Olsbausenst  
E-mail: har  
<sup>b</sup>Institut für  
MA 8-1, Str

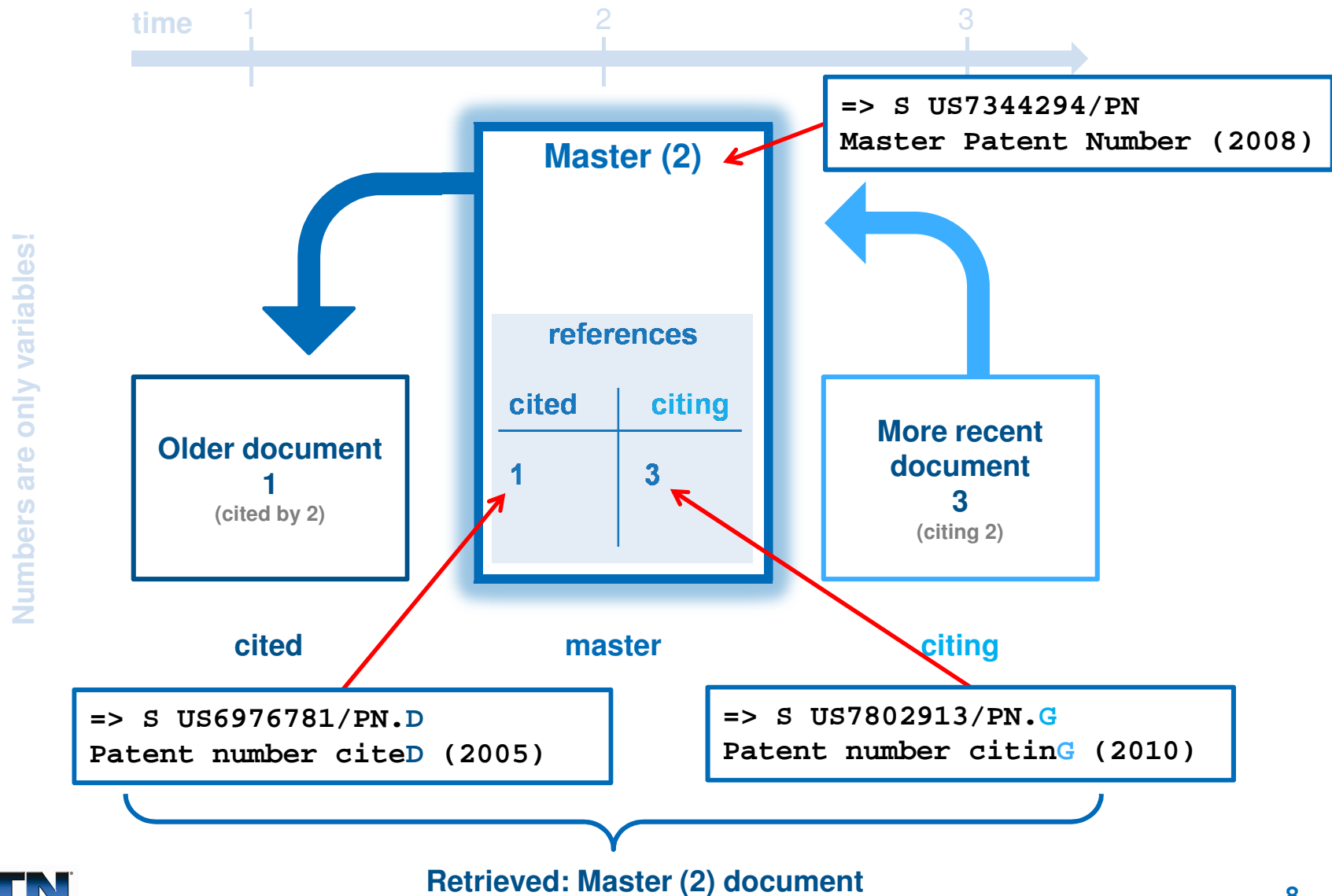
This journal

### References

- 1 H. D. Meyer, U. Manthe and L. S. Cederbaum, *Chem. Phys. Lett.*, 1990, **165**, 73.
- 2 A. D. Hammerich, R. Kosloff and M. A. Ratner, *Chem. Phys. Lett.*, 1990, **171**, 97.
- 3 H.-D. Meyer and G. A. Worth, *Theor. Chem. Acc.*, 2003, **109**, 251.
- 4 F. Huarte-Larrañaga and U. Manthe, *J. Chem. Phys.*, 2000, **113**, 5115.
- 5 O. Vendrell, F. Gatti, D. Lauvergnat and H.-D. Meyer, *J. Chem. Phys.*, 2007, **127**, 184302.
- 6 O. Vendrell, F. Gatti and H.-D. Meyer, *J. Chem. Phys.*, 2007, **127**, 184303.
- 7 H. Wang and M. Thoss, *J. Chem. Phys.*, 2003, **119**, 1289.
- 8 M. Thoss and H. Wang, *Chem. Phys.*, 2006, **322**, 210.
- 9 R. Kosloff, *Dynamics of molecules and chemical reactions*, Marcel Dekker Inc., New York, 1996, ch. 5, p. 185.
- 10 L. R. Petey and R. E. Wyatt, *Chem. Phys. Lett.*, 2006, **424**, 443.
- 11 L. R. Petey and R. E. Wyatt, *Int. J. Quantum Chem.*, 2007, **107**, 1566.
- 12 M. Ben-Nun and T. J. Martinez, *J. Chem. Phys.*, 2000, **112**, 6113.
- 13 D. Lauvergnat, E. Baloitcha, G. Dive and M. Desouter-Lecomte, *Chem. Phys.*, 2006, **306**, 500.
- 14 G. D. Billing, *The Quantum Classical Theory*, Oxford University Press, Oxford, 2003.
- 15 P. Puzari, B. Sarkar and S. Adhikari, *J. Chem. Phys.*, 2004, **121**, 707.
- 16 R. E. Wyatt, *J. Chem. Phys.*, 2002, **117**, 9569.
- 17 Y. Goldfarb, I. Degani and D. J. Tannor, *J. Chem. Phys.*, 2006, **125**, 231103.
- 18 Y. Goldfarb and D. J. Tannor, *J. Chem. Phys.*, 2007, **127**, 161101.
- 19 S. S. Iyengar and J. Jakowski, *J. Chem. Phys.*, 2005, **122**, 114105.
- 20 V. Gradinaru, *Computing*, 2007, **80**, 1.
- 21 D. T. Colbert and W. H. Miller, *J. Chem. Phys.*, 1992, **96**, 1982.
- 22 R. Dawes and T. Carrington, Jr, *J. Chem. Phys.*, 2004, **121**, 726.
- 23 Z. Bacic and J. C. Light, *J. Chem. Phys.*, 1986, **85**, 4594.
- 24 R. Dawes and T. Carrington, Jr, *J. Chem. Phys.*, 2005, **122**, 134101.
- 25 R. Dawes and T. Carrington, Jr, *J. Chem. Phys.*, 2006, **124**, 054102.
- 26 B. Hartke, *Phys. Chem. Chem. Phys.*, 2006, **8**, 3627.
- 27 D. A. McCormack, *J. Chem. Phys.*, 2006, **124**, 204101.
- 28 D. Lauvergnat and A. Nauts, *J. Chem. Phys.*, 2002, **116**, 8560.
- 29 C. Leforestier, R. H. Bisseling, C. Cerjan, M. D. Feit, R. Friesner, A. Gulberg, A. Hammerich, G. Jolicard, W. Karrlein, H.-D. Meyer, N. Lipkin, O. Roncero and R. Kosloff, *J. Comput. Phys.*, 1991, **94**, 59.
- 30 I. P. Hamilton and J. C. Light, *J. Chem. Phys.*, 1986, **84**, 306.
- 31 V. Maz'ya and G. Schmidt, *IMA J. Num. Anal.*, 1996, **16**, 13.
- 32 V. Maz'ya and G. Schmidt, *Approximate Approximations*, AMS, 2007.
- 33 V. Maz'ya and G. Schmidt, *Appl. Comp. Harm. Anal.*, 1999, **6**, 287.
- 34 S. Mallat, *A wavelet tour of signal processing*, Academic Press, London, 2nd edn, 1999.
- 35 R. A. Friesner, *J. Chem. Phys.*, 1986, **85**, 1462.
- 36 W. Yang and A. C. Peet, *Chem. Phys. Lett.*, 1988, **153**, 98.
- 37 S. Pissanetsky, *Sparse Matrix Technology*, Academic Press, London, 1984.
- 38 E. Steffen, Master's thesis, University of Kiel, 2008.
- 39 M. R. Brill, F. Gatti, D. Lauvergnat and H.-D. Meyer, *Chem. Phys.*, 2007, **338**, 186.
- 40 B. Podolsky, *Phys. Rev.*, 1928, **32**, 812.
- 41 H. Margenau and G. M. Murphy, *The Mathematics of Physics and Chemistry*, Van Nostrand, Princeton, NJ, 1956.
- 42 A. Nauts and X. Chapuisat, *Mol. Phys.*, 1985, **55**, 1287.
- 43 X. Chapuisat, A. Belafhal and A. Nauts, *J. Mol. Spectrosc.*, 1991, **149**, 274.
- 44 H. F. von Horsten, PhD thesis, University of Kiel, 2008.
- 45 H. F. von Horsten and B. Hartke, *Chem. Phys.*, 2007, **338**, 160.
- 46 H. F. von Horsten, G. Rauhut and B. Hartke, *J. Phys. Chem. A*, 2006, **110**, 13014.
- 47 D. Kosloff and R. Kosloff, *J. Comput. Phys.*, 1983, **52**, 35.
- 48 M. D. Feit, J. A. Fleck, Jr and A. Steiger, *J. Comput. Phys.*, 1982, **47**, 412.
- 49 S.
- 50 R.
- 51 E.
- 52 B.
- 53 D.
- 54 D. Manolopoulos, Talk at the "Charles Coulson Summer School in Theoretical Chemistry", Oxford, 1996.
- 55 J.-Y. Ge and J. Z. H. Zhang, *J. Chem. Phys.*, 1998, **108**, 1429.

There is no common standard in non-patent citations.

# Concept: Cited and Citing - diagram



# Citation information – database overview

Database Subject areas	STN database	Database contains documents from	Documents containing citation information	Cited	Citing
All areas (1974-)	SCISEARCH	Journals, reviews, conference proceedings	Non-patent literature	✓	-
Chemistry, biochemistry, chemical engineering (1997-)	CAplus	Journals, reviews, conference proceedings, technical reports, patents	US EP WO DE (1997-) GB FR (2003-) CA (2005-) Non-patent literature	✓	✓
All areas (1973-)	DPCI	23 patent authorities	All 23 patent authorities <a href="#">8</a>	✓	✓
All areas (1947-)	INPAFAMDB	Patents	24 patent authorities <a href="#">8</a>	✓	-
All areas (1975-) Selected tech. (1971-1974)	USPATFULL	Patents	US	✓	-
All areas (1963-) Chemistry (1950-)	IFIPAT	Patents	US	✓	-
All areas (1978-)	EPFULL	Patents	EP	✓	-
All areas (1968-)	PATDPA	Patents	DE and EP/WO with DE as designated state	✓	-



In general **patents** and **non-patent documents** may contain both, patent and non-patent references!

# Reasons to choose 1 of the 4 main sources

STN database		Main characteristics	Patent family based	Citation counter
SCISEARCH	<a href="#">8</a>	<ul style="list-style-type: none"> <li>• Special Search and display fields</li> <li>• Extensive coverage of journal literature in all technologies</li> <li>• Easily extend your search in other databases by cited references: =&gt; <code>SELECT CIT; S E#</code></li> </ul>	-	-
CAplus	<a href="#">8</a>	<ul style="list-style-type: none"> <li>• Timeliness and extensive coverage from patents and non-patent literature in the field of chemistry</li> <li>• Citations from basic patent</li> </ul>	✓	✓
DPCI	<a href="#">8</a>	<ul style="list-style-type: none"> <li>• Special Search and display fields</li> <li>• Very good coverage all technological fields</li> <li>• Citations from all DWPI patent family members per record</li> <li>• Cross reference to DWPI (identical Accession Numbers)</li> </ul>	✓	✓
INPAFAMDB	<a href="#">8</a>	<ul style="list-style-type: none"> <li>• Large country coverage, level of citation detail</li> <li>• Citations from all family members per record</li> </ul>	✓	-

# How does a cited reference table look like?

L4 ANSWER 1 OF 1 SCISEARCH COPYRIGHT (c)  
on STN

SciSEARCH entry (shortened)

. . .  
RE

Table of Cited References

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	ARN PG (RPG)	Referenced Work (RWK)
ALEXOPOULOS H	2004	14	879	CURR BIOL
BODE P M	1984		213	PATTERN FORMATION PR
BRIDGE D M	2000			
BROUN M	2005			
BROWNE E N	1909			
BUTTS T	2008			
CHOURROUT D	2006	442	684	NATURE
DAVID C N	1977			
DING L X	2004			
DOURIS V	2010			
FENG B	2009			
FRAUNE S	2007			
GRIMSON A	2008	455	1193	NATURE
HOBMAYER B	2000			
...	...	...	...	...
ZACHARIAS H	2004	107	219	ZOOLOGY

/RAU: Cited Referenced Author

/RPY: Cited Referenced Publication Year

/RVL: Cited Referenced Volume of the cited journal

/RPG: Cited Referenced Page (1<sup>st</sup> page)

/RWK: Cited Referenced Work (journal title)

# Agenda

- The principles of citations
- Databases with reference information on STN
- Everyday searching
  - Simple reference searching
  - Impact of publications
  - Competitor analysis
  - Identify key patents
- Summary

# Automated cited reference searching

=> FILE BIOSIS

=> S KHALTURIN?/AU AND NATURE/SO AND 2010/PY

L1 1 KHALTURIN?/AU AND NATURE/SO AND 2010/PY

=> D

Search for the article you are interested in.

L1 ANSWER 1 OF 1 BIOSIS COPYRIGHT (c) 2011 The Thomson Corporation on STN  
AN 2010:229495 BIOSIS  
DN PREV201000229495  
TI The dynamic genome of Hydra.  
AU Chapman, Jarrod A.; Kirkness, Ewen F.; Simakov, Oleg; Hampson, Steven  
. . . Khalturin, Konstantin; Hemmrich, Georg . . .  
CS Univ Calif Irvine, Ctr Dev Biol, Irvine, CA 92717 USA  
dsrokhsar@gmail.com; resteele@uci.edu  
SO Nature (London), (MAR 25 2010) Vol. 464, No. 7288, pp. 592-596.  
CODEN: NATUAS. ISSN: 0028-0836.  
DT Article  
LA English  
ED Entered STN: 28 Apr 2010  
Last Updated on STN: 28 Apr 2010

# Automated cited<sub>u</sub> reference searching

```
=> SEL CIT  
E1 THROUGH E1 ASSIGNED
```

```
=> FILE SCISEARCH
```

```
=> S E1
```

```
L2          21 "CHAPMAN J A, 2010, V464, P592,?"/RE  
              ("CHAPMAN J A, 2010, V464, P592,"?/RE)
```

Automatically bibliographic data is extracted by SEL CIT:

1<sup>st</sup> author's name  
Publication year  
Volume  
1<sup>st</sup> page

Enter SCISEARCH and search for your E#. Thus your selected information is automatically searched for in the cited references (/RE).

# Display bibliographic information

=> D BIB RE

L2 ANSWER 1 OF 21 SCISEARCH COPYRIGHT (c) 2011 The Thomson Corporation on STN  
AN 2011:339169 SCISEARCH  
GA The Genuine Article (R) Number: 718QD  
TI Characterization of the Core Elements of the NF-kappa B Signaling Pathway  
of the Sea Anemone Nematostella vectensis  
AU Gilmore, Thomas D. (Reprint)  
CS Boston Univ, Dept Biol, 5 Cummington St, Boston, MA 02215 USA (Reprint)  
E-mail: gilmore@bu.edu  
AU Wolenski, Francis S.; Garbati, Michael R.; Lubinski, Tristan J.;  
Traylor-Knowles, Nikki; Dresselhaus, Erica; Stefanik, Derek J.; Goucher,  
Haley; Finnerty, John R.; Gilmore, Thomas D. (Reprint)  
CS Boston Univ, Dept Biol, Boston, MA 02215 USA  
E-mail: gilmore@bu.edu  
CYA USA  
SO JOURNAL OF BACTERIOLOGY, (MAR 2011) Vol. 193, No. 5, pp. 1076-U1087.  
ISSN: 0021-9193.  
PB AMER SOC MICROBIOLOGY, 1752 N ST NW, WASHINGTON, DC 20036-2904 USA.  
. . .

# Display cited reference table

RE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	ARN PG (RPG)	Referenced Work (RWK)	
ALTSCHUL S F	1990	215	403	J MOL BIOL	
ANDERSON P A V	2009	54	1046	TOXICON	
BAILEY T L	1994	2	28	P INT C INT SYST MOL	
BROWN B E	2005	296	291	MAR ECOL-PROG SER	
BRYNE J C	2008	36	D102	NUCLEIC ACIDS RES	
CHAPMAN J A	2010	464	592	NATURE	<--
CLEMENT J F	2008	18	889	CELL RES	
DENNIS G	2003	4	R60	GENOME BIOL	
ERTURKHASDEMIR D	2009	106	9779	P NATL ACAD SCI USA	
FRANK P	1976	10	441		
GARBATI M R	2010	291	237		
GARBATI M R	2008	14	195		
GAUTHIER M	2008	218	23		
HAYDEN M S	2008	132	344	CELL	
. . .					

The arrow (<--) indicates the hit term, which is the Nature article of Mr K. Khalturin et al.

# Manual cited reference searching

```
=> FILE SCISEARCH
```

```
=> E KHALTURIN/RAU
```

```
E1          2      KHALTRUIN K D/RAU
E2          1      KHALTSE D/RAU
E3          0  --> KHALTURIN/RAU
E4         10      KHALTURIN D K/RAU
E5          7      KHALTURIN G V/RAU
E6          1      KHALTURIN I T/RAU
E7         111     KHALTURIN K/RAU
E8          1      KHALTURIN K V/RAU
E9          6      KHALTURIN M D/RAU
E10         4      KHALTURIN V/RAU
E11         7      KHALTURIN V G/RAU
E12        75     KHALTURIN V I/RAU
```

```
=> S E7 OR E8
```

```
111 "KHALTURIN K"/RAU
    1 "KHALTURIN K V"/RAU
L1  112 "KHALTURIN K"/RAU OR "KHALTURIN K V"/RAU
```

To search for the author Konstantin Khalturin, expand on the author name to find name variations.

Identify the correct name(s).

Search for a referenced author in the referenced author field (**/RAU**).

# Manual cited reference searching

=> D 1 BIB HIT

Displaying a citing article with BIB HIT...

L1 ANSWER 1 OF 112 SCISEARCH COPYRIGHT (c) 2011 The Thomson Corporation  
on STN  
AN 2011:290111 SCISEARCH Full-text  
GA The Genuine Article (R) Number: 718HS  
TI Comparative Genomic Analysis of Fruiting Body Formation in Myxococcales  
AU Huntley, Stuart; Hamann, Nils; Wegener-Feldbruegge, Sigrun; Treuner-  
Lange,  
Anke; Sogaard-Andersen, Lotte (Reprint)  
CS Max Planck Inst Terr Microbiol, Dept Ecophysiol, D-35043 Marburg, Germany  
(Reprint)  
E-mail: [sogaard@mpi-marburg.mpg.de](mailto:sogaard@mpi-marburg.mpg.de)

...indicates the hit reference.

. . .

Referenced Author	Year	VOL	ARN PG	Referenced Work
(RAU)	(RPY)	(RVL)	(RPG)	(RWK)

=====+=====+=====+=====+=====

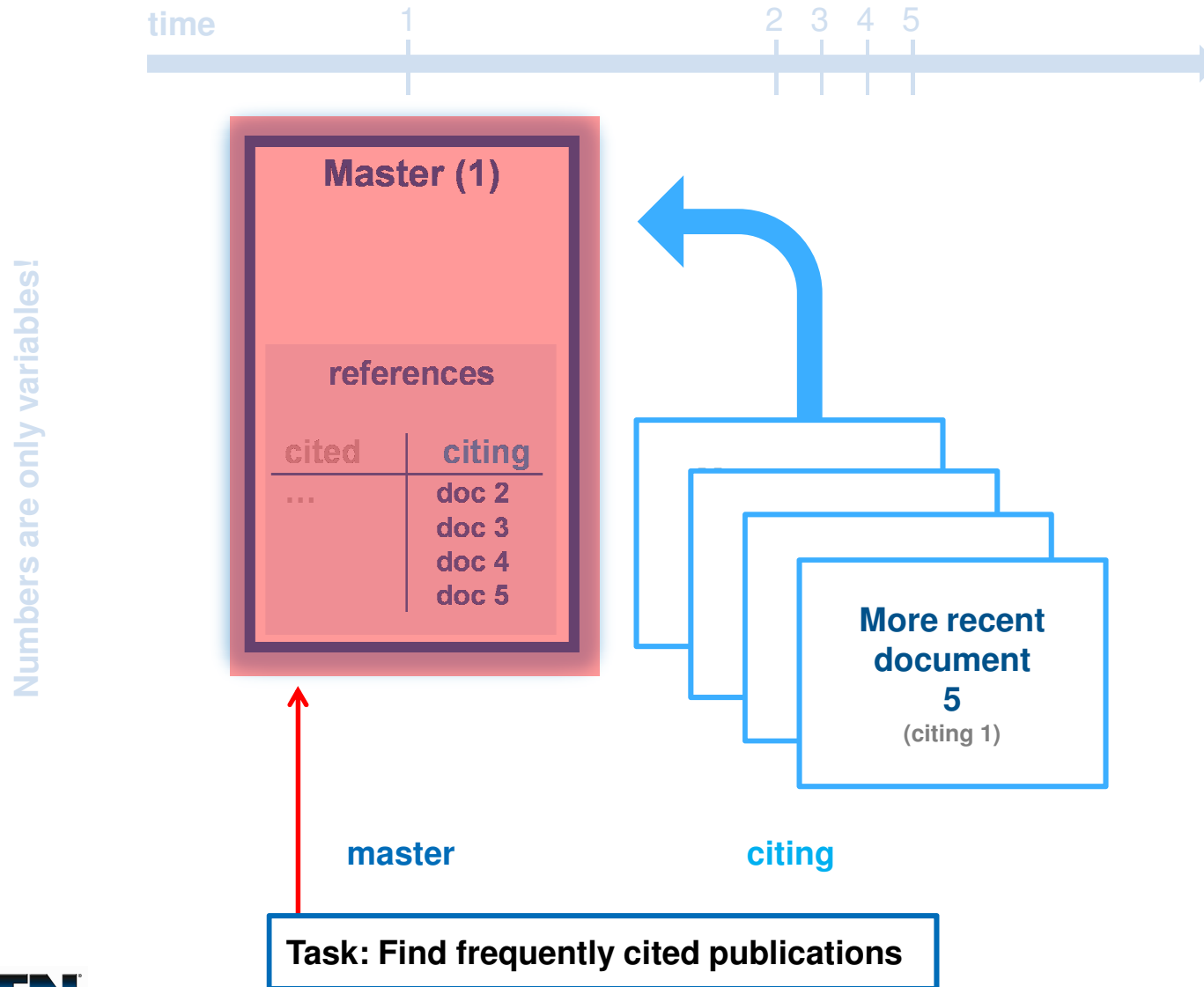
KHALTURIN K	2009	25	404	TRENDS GENET
-------------	------	----	-----	--------------

<--

# Agenda

- The principles of citations
- Databases with reference information on STN
- Everyday searching
  - Simple reference searching
  - **Impact of publications**
  - Competitor analysis
  - Identify key patents
- Summary

# Concept: Impactful publication      many citings



# Citing information in CAplus to limit answer set to most impactful publications

## Search fields

OS Citing References Count (**OSC.G**) – number of citing references

Date Last Cited (**UPOS.G**) – date last citing reference entered STN

OS Citing References (**OS.G**) – citing reference accession numbers  
(not sortable)

## Display formats:

**OSG** – displays OSC.G, UPOS.G, and OS.G (up to 50 accession numbers = ANs)

**OSG.MAX** – displays OSC.G, UPOS.G, and OS.G (up to 10 ANs)

**OS.GMAX** – displays OS.G (up to 1020 accession numbers)

# Search for documents that are cited more than 100 times

=> FILE REGISTRY

=> S (GOLD OR PLATINUM OR OSMIUM OR RHODIUM OR SILVER)/CN

L1 5 (GOLD OR PLATINUM OR OSMIUM OR RHODIUM OR SILVER)/CN

=> FILE CAPLUS

=> S L1/NANO

L2 13711 L1/NANO  
(L1 (L) NANO/RL)

Restrict the search to documents which are cited more than 100 times and exclude reviews.  
OSC.G = number of citing references

=> S L2 AND OSC.G>100 NOT REVIEW/DT

L3 119 L2 AND OSC.G>100 NOT REVIEW/DT

=> SORT OSC.G D L3 1-

PROCESSING COMPLETED FOR L3

L4 119 SORT L3 1- OSC.G D

Sort your answer set according to the number of citings (descending) to obtain the most impactful publications in the first answer numbers.

# And the most impactful publication is...

=> D L4 1

L4 ANSWER 1 OF 119 CAPLUS COPYRIGHT 2010 ACS on STN

AN 2001:442933 CAPLUS

DN 135:187312

TI Room-temperature ultraviolet nanowire nanolasers

AU Huang, Michael H.; Mao, Samuel; Feick, Henning; Yan, Haoquan; Wu, Yiyi; Kind, Hannes; Weber, Eicke; Russo, Richard; Yang, Peidong

CS Department of Chemistry, University of California, Berkeley, CA,

OS.G allows you to access citing documents by clicking the linked CAPLUS accession number.

3782 > 3741

Note that there are multiple occurrences of identical references within some publications.

DI Journal

LA English

OSC.G 3741 THERE ARE 3741 CAPLUS RECORDS THAT CITE THIS RECORD (3782 CITINGS)

UPOS.G Date last citing reference entered STN: 21 Aug 2009

OS.G [CAPLUS 2009:811781](#); [2009:811776](#); [2009:811721](#); [2009:741481](#);

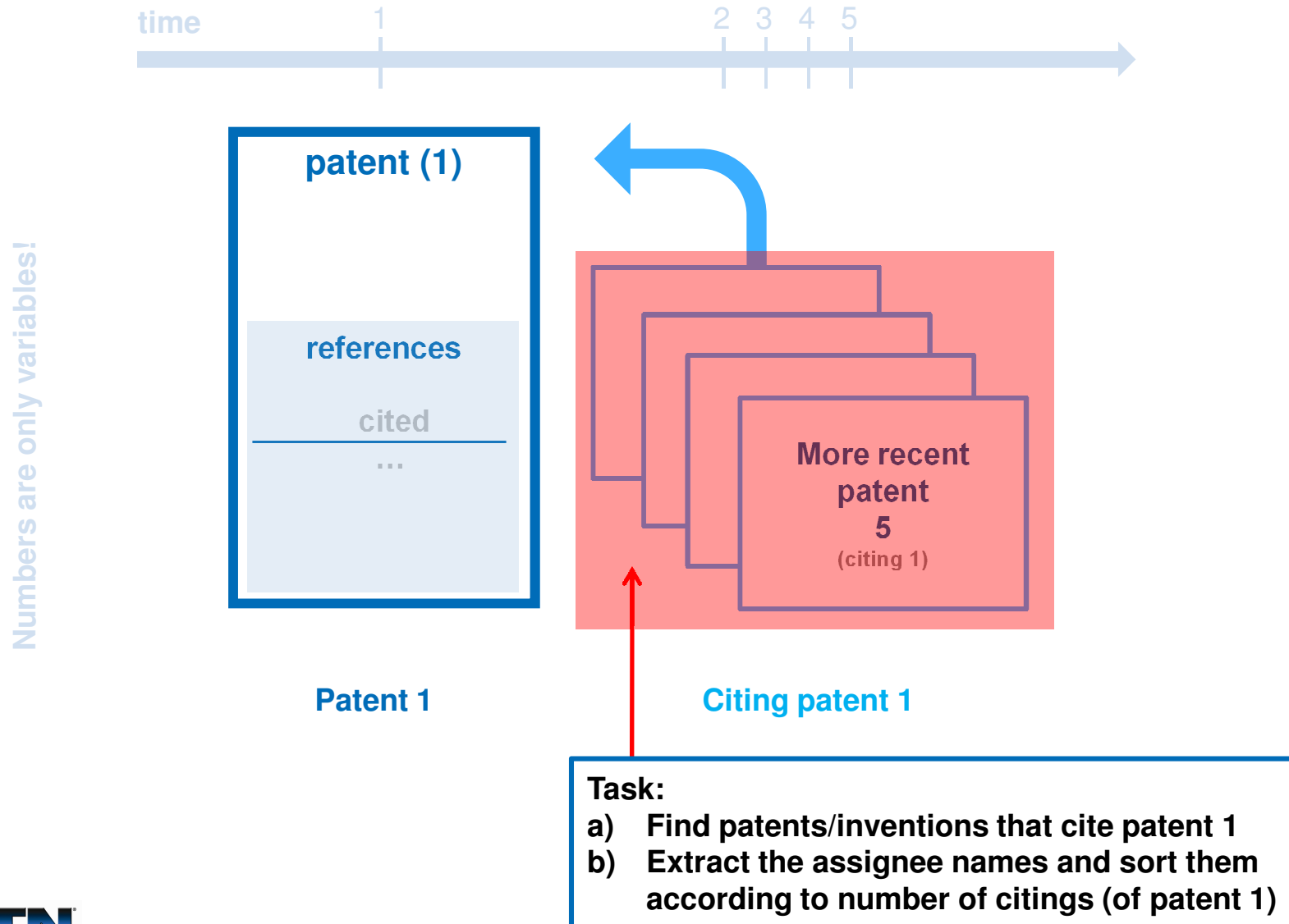
o o o o

RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

# Agenda

- The principles of citations
- Databases with reference information on STN
- Everyday searching
  - Simple reference searching
  - Impact of publications
  - **Competitor analysis**
  - Identify key patents
- Summary

# Concept: Competitor analysis      many citings



# Study competitors by analyzing patent citations

## **Search Question:**

The company QIAGEN is interested if any competitors have published inventions very close to their technology.

Use specific features of the INPAFAMDB database to find competitors with strongly related technologies.

# Identify potential competitors of QIAGEN

```
=> FIL INPAFAMDB
=> S QIAGEN/PASS
      299 QIAGEN/PA
      298 QIAGEN/PAS
      241 QIAGEN/LSPA
L1      366 QIAGEN/PASS
      (QIAGEN/PA,PAS,LSPA)
```

Company search for Qiagen in the assignee super search field (**/PASS**).

```
=> TRANSFER L1 PN 1- /RPN
L2      TRANSFER L1 1- PN : 2
L3      1841 L2/RPN
```

TRANSFER publication numbers (PN) to the referenced publication number field **/RPN**.

```
=> S L3 NOT QIAGEN/PA,PAS
      299 QIAGEN/PA
      298 QIAGEN/PAS
L4      1706 L3 NOT QIAGEN/PA,PAS
```

Exclude self-citations.

```
=> S L3(S)X/CAT NOT QIAGEN/PA,PAS
      1763971 X/CAT
      430 L28(S)X/CAT
      299 QIAGEN/PA
      298 QIAGEN/PAS
L5      379 L3(S)X/CAT NOT QIAGEN/PA,PAS
```

**Option:** Use (**S**) proximity to refine the QIAGEN cited patent numbers (**/RPN**) with an “X” search report category (**/CAT**). Again, exclude self-citations.

# Identify potential competitors of QIAGEN

=> D BRIEF PIRE

L5 ANSWER 1 OF 379 INPAFAMDB

AN 40288182 INPAFAMDB EDF 2010110

TI Kartusche und Betriebsverfahren

Biosensorsystems.

- CARTRIDGE AND OPERATING METHOD FOR REAGENTS OF A BIOSENSOR SYSTEM.

- CARTOUCHE ET PROCEDE DE FONCTIONNEMENT POUR DES REACTIFS D'UN SYSTEME BIOCAPTEUR.

INS BARLAG HEIKE, DE; OSTERMAIER JOCHEN, DE

PAS SIEMENS AG, DE

- BARLAG HEIKE, DE; OSTERMAIER JOCHEN, DE

IPCI C12M0001-34 [I,A]; G01N0033-18 [I,A]; G01N0033-50 [I,A];

B01J0004-02 [I,A]; B01J0019-00 [I,A]; B01L0003-00 [I,A];

B41J0002-175 [I,A]; C12M0001-18 [I,A]

EPC G01N0033-50; B01L0003-00D2; B01L0003-00D4; B01L0099-00G2; B41J0002-175C2; B41J0002-175C3

AB (WO 2010124895 A1)

Cartridge (10) for providing reagents for a biosensor system, comprising at least two containers (11-17), the at least partially open upper sides of which are each sealed by a foil (22) in an

. . .

A good display format is BRIEF PIRE:

- a) Short overview of content and bibliography +
- b) Cited references

# Identify potential competitors of QIAGEN

...

## PATENT FAMILY INFORMATION INPAFAMDB

```
+----- Publications -----+  
DE 102009019650      A1 20101104  
WO 2010124895      A1 20101104
```

```
+----- Applications -----+  
DE 2009-102009019650 A 20090430  
WO 2010-EP52969      W 20100309
```

```
+----- Priorities -----+  
DE 2009-102009019650 A 20090430
```

1 priority, 2 applications, 2 publications

Patent family information  
a) Publications  
b) Applications  
c) Priorities

# Identify potential competitors of QIAGEN

Member 1

...  
PI DE 102009019650 A1 20101104  
REP US 6337053 B1 20020108 (SEA, pat)  
PREC SYSTEM SCIENCE CO LTD, JP  
US 20090042280 A1 20090212 (SEA, pat)  
GENEOHM SCIENCES INC  
US 20060177344 A1 20060810 (SEA, pat)  
OUCHI KATSUMI; MITSUMAKI HIROSHI  
US 20020031842 A1 20020314 (SEA, pat)  
REC 4. THERE ARE 4 CITED REFERENCES (4 PATENT, 0 NON PATENT) AVAILABLE FOR THIS RECORD.

PI reveals the citing publication (DE application).

The DE patent cites US publications.

All the citations are patent references.

Member 2

PI WO 2010124895 A1 20101104  
REP WO 2000056455 A2 20000928 (SEA, pat, Cat: X)  
PYROSEQUENCING AB, SE; PIESOLD ALEXANDER JAMES GB; HAGERLID PETER, SE; EHRING HANNO, SE; EKSTROEM BJOERN, SE  
WO 2002090995 A2 20021114 (SEA, pat,  
AXIS SHIELD ASA, NO; HOLTlund JOSTEIN, NO  
THORSTEIN, NO; JANSON TORE, NO; TOEN HEGE  
LAUVSTAD INGER LISE, NO; COCKBAIN JULIAN, GB  
US 5075082 A 19911224 (SEA, pat, Cat: Y)  
BECKMAN INSTRUMENTS INC, US  
REC 3. THERE ARE 3 CITED REFERENCES (3 PATENT, 0 NON PATENT) AVAILABLE FOR THIS RECORD.

The hit document is a high-relevance X publication.

The WO application cites only patent publications.

1 priority, 2 applications, 2 publications

# Identify potential competitors of QIAGEN

=> ANALYZE L4 1- PAS

L6 ANALYZE L30 1- PAS : 1359 TERMS

=> D DOC 1-15

L6 ANALYZE L30 1- PAS : 1359 TERMS

TERM #	# OCC	# DOC	% DOC	PAS
1	57	11	2.96	APPLERA CORP
2	15	10	2.69	LIFE TECHNOLOGIES CORP
3	38	7	1.88	HOFFMANN LA ROCHE
4	36	7	1.88	INVITROGEN CORP
5	26	7	1.88	ROCHE DIAGNOSTICS
6	18	6	1.61	AGILENT TECHNOLOGI
7	78	5	1.34	BECTON DICKINSON C
8	61	5	1.34	PROMEGA CORP
9	20	5	1.34	FUJI PHOTO FILM CO LTD
10	12	5	1.34	BENDZKO PETER
11	89	4	1.08	UNIV IOWA RES FOUN
12	79	4	1.08	COLEY PHARM GMBH
13	54	4	1.08	MILLIPORE CORP
14	40	4	1.08	ABBOTT LAB
15	23	4	1.08	CANON KK

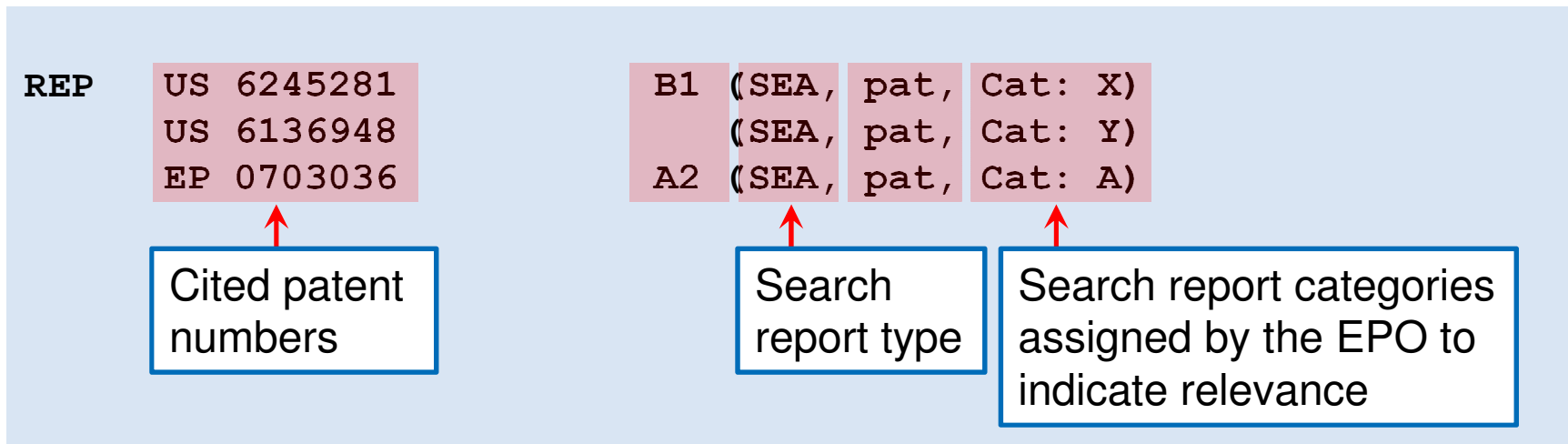
Analyzing the INPAFAMDB patent assignee standardized field (PAS)...

...reveals the main competitors whose patents contain citations of QIAGEN documents.

Please note that we sorted the ANALYZE list according to the number of documents (DOC), not occurrences.

# INPAFAMDB: Patent citations sample display

(from EP 1384565)



- Search Report Types **/SRT**
  - **APP, SEA, EXA, OPP, 115, ISR, SUP, CH2**
- Search Report Categories **/CAT**
  - **A D E L O P T X Y**
- Linked with **(S)** proximity operator

# Search report category and type

Heading	Symbol	Content		
Search report category (/CAT)	A	technological background		
	D	document cited in the application		
	E	earlier application or patent but published on or after the international filing date		
	L	document cited for other reasons		
	O	non-written disclosure		
	P	intermediate document		
	T	theory or principle underlying the invention		
	X	particularly relevant if taken alone		
	Y	particularly relevant if combined with another document of the same category		
Search report type (/SRT)	SEA	citation from search report	ISR**	international search report
	APP	cited by applicant	SUP**	supplementary search report
	EXA*	revealed during examination	CH2**	internat. prelim. search report
	OPP*	revealed during opposition		
	115*	observation by third parties		

\* EP publications

\*\* PCT publications

# Citations sample display

(from EP 1384565)

REP US 6245281 B1 20010612 (SEA, pat, Cat: X)  
HUELS CHEMISCHE WERKE AG, US  
US 6136948 A 20001024 (SEA, pat, Cat: Y)  
DTM CORP, US  
EP 703036 A2 19960327 (SEA, pat, Cat: A)  
DTM CORP, US  
REXP XP002213140 (SEA, Cat: X)  
- XP000656866 (SEA, Cat: X)

XP numbers from EPO /REXP

REN KELLER PETER: "Der Stoff, aus dem die Prototypen sind" KUNSTSTOFFE,  
CARL HANSER VERLAG. MUNCHEN, DE, vol. 89, no. 11, 1 November 1999  
(1999-11-01), pages 58-61, XP002213140 ISSN: 0023-5563 (SEA, Cat: X)  
- SCHMACHTENBERG E ET AL: "LASERSINTERN VON POLYAMID. LASER-SINTERING  
OF POLYAMIDE" KUNSTSTOFFE, CARL HANSER VERLAG. MUNCHEN, DE, vol. 87,  
no. 6, 1 June 1997 (1997-06-01), pages 773-774,776, XP000656866 ISSN:  
0023-5563 (SEA, Cat: X)  
- Schmachtenberg, E.; Aischer, G.; and Bruing, S., Laser-Sintering of  
Polyamide, Kunststoffe 87 (1997) 6-14 (APP)  
- XP002213140, Mar. 17, 1972, Germany. (APP)  
- XP000656866, Feb. 21, 1938, Germany. (APP)  
- European Search Report dated Nov. 7, 2003. (APP)

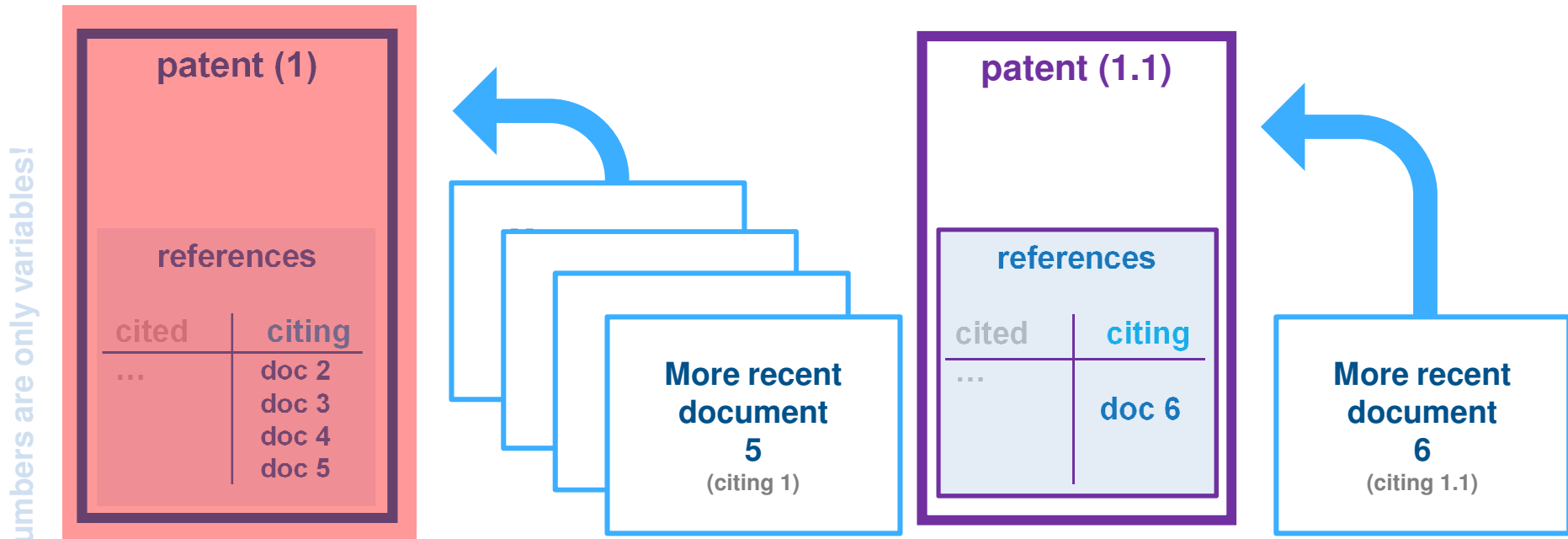
Cited non-patent literature /REN

# Agenda

- The principles of citations
- Databases with reference information on STN
- Everyday searching
  - Simple reference searching
  - Impact of publications
  - Competitor analysis
  - Identify key patents
- Summary

# Concept: key patents

# many citings



Patent 1

citing

Patent 1.1

citing

Task: Find frequently cited patents by analyzing the number of citing patents

# Identifying key patents

## Search Question:

Which are the key patents of Henkel in the area of detergents/washing?

Use specific features of the DPCI database to find related articles and thus identify key patents.

**Note:** In this example we use the Other Source Count Citing ([OSC.G](#)) analysis field. The “Other Source” is the citing DWPI Accession Number (AN). OSC.G is therefore the number of citing DWPI ANs – i.e. the number of citing DWPI patent families.

# A quick guide: How to identify key patents

## 1. Subject search

produces L1

=> `FIL WPINDEX`

=> `SEARCH [SUBJECT OF INTEREST]`

## 2. DPCI Search

produces L2 and L3

=> `FILE DPCI`

=> `TRANSFER L1 1- AN`

## 3. Analyze

Analyze DPCI answer set and find high OSC.G values; produces L4

=> `ANALYZE L3 1- OSC.G`

=> `D L4 1-`

## 4. Search impactful patents

Search highly cited patents  
produces L5

=> `S (high values)/OSC.G AND L3`

**L5** contains the DPCI records for the highly cited patents.

# Identifying key patents

=> **FIL WPINDEX**

=> **S (HENKEL/PA OR HENK/PACO)**

12589 HENKEL/PA

12563 HENK/PACO

(HENK-C/PACO)

64908 C11D/IPC

29862 C11D/EPC

L1 3924 (HENKEL/PA OR HENK/PACO) AND C11D/IPC,EPC

Run a technology search in WPINDEX.

=> **FILE DPCI**

Extraction of Accession Numbers from WPINDEX and searching them in DPCI.

=> **TRANSFER L1 1- AN**

L2 TRANSFER L1 1- AN : 3924 TERMS

L3 3716 L2

ANALYZING the number of patent families citing the Henkel inventions.

=> **ANALYZE L3 1- OSC.G**

L4 ANALYZE L3 1- OSC.G : 87 TERMS

# Identifying key patents

=> D L4 1-

L4 ANALYZE L3 1- OSC.G : 87 TERMS

TERM #	# OCC	# DOC	% DOC	OSC.G
1	626	626	16.84	0
2	532	532	14.31	1
3	411	411	11.06	2
4	342	342	9.20	3
5	246	246	6.62	4
6	191	191	5.14	5
7	175	175	4.71	6
8	140	140	3.77	7
9	110	110	2.96	9
10	109	109	2.93	8
11	74	74	1.99	11
12	73	73	1.96	10
13	73	73	1.96	12
14	58	58	1.56	13
15	49	49	1.32	16
. . .				

# Identifying key patents

```
. . .  
70      1      1      0.03 166  
71      1      1      0.03 171  
72      1      1      0.03 214  
73      1      1      0.03 221  
74      1      1      0.03 53  
75      1      1      0.03 54  
76      1      1      0.03 57  
77      1      1      0.03 59  
78      1      1      0.03 65  
79      1      1      0.03 66  
80      1      1      0.03 68  
81      1      1      0.03 76  
82      1      1      0.03 78  
83      1      1      0.03 85  
84      1      1      0.03 91  
85      1      1      0.03 92  
86      1      1      0.03 94  
87      1      1      0.03 97
```

```
***** END OF L12***
```

The most cited invention by Henkel in this area was cited by 221 patent families (221/OSC.G).

# Identifying key patents

```
=> S L3 AND 221/OSC.G
      38 221/OSC.G
L5      1 L3 AND 221/OSC.G
```

Retrieve the Henkel DPCI record with 221 citing patent families (L5).

```
=> D AN TI PI PA CTCS
```

```
L5 ANSWER 1 OF 1 DPCI COPYRIGHT 2011 THOMSON REUTERS on STN
AN 1974-75753V [197444] DPCI
TI Textile cleaning bath contg alumino silicates - as fine dispersion
   functioning as calcium sequestering agents
PI BE 813581 A 19741011 (197444)* FR
   NL 7403381 A 19741015 (197444) NL
   DE 2412837 A 19741031 (197445) DE
   NO 7400889 A 19741111 (197449) NO
   DK 7401384 A 19741125 (197451) DA
   FI 7400763 A 19741202 (197501) FI
   FR 2225568 A 19741213 (197506) FR
   SE 7403379 A 19750224 (197512) SV
   JP 50012381 A 19750207 (197514) JA
   ZA 7402360 A 19750228 (197522) EN
   . . .
```

# Identifying key patents

. . .  
CTCS CITATION COUNTERS  
-----

Retrieve the Henkel DPCI record with 221 citing patent families (L5).

. . .

OSC.D	19	Cited Patent WPI Accession Number Count (total)
OSC.DX	19	Cited Patent WPI Accession Number Count (by exam.)
OSC.DI	0	Cited Patent WPI Accession Number Count (by inv.)
OSC.DO	0	Cited Patent WPI Accession Number Count (in opp. doc.)
OSC.DTH	0	Cited Patent WPI Accession Number Count (third party)
OSC.DUN	0	Cited Patent WPI Accession Number Count (undefined)
OSC.G	221	Citing Patent WPI Accession Number Count (total)
OSC.GX	173	Citing Patent WP
OSC.GI	53	Citing Patent WP
OSC.GO	1	Citing Patent WP
OSC.GTH	0	Citing Patent WP
OSC.GUN	7	Citing Patent WPI Accession Number Count (undefined)

The most cited invention by Henkel in this area was cited by 221 patent families (221/OSC.G).

# Patent Databases: Citation fields

Search Field	DPCI	INPAFAMDB	CAPLUS
Cited Patent Assignee	PA.D	PAS.D <sup>1</sup>	-
Cited Publication Year	PY.D	PY.D	RPY
Cited Patent Number	PN.D	PN.D	RPN
Cited Reference Count	RE.CNT	-	RE.CNT
Citing Reference Count	OSC.G <sup>2</sup>	-	OSC.G
Display Field	DPCI	INPAFAMDB	CAPLUS
Cited patent references	CDP	REP <sup>3</sup>	RE
Cited non patent literature	REN	REN	RE
Citing counters	CTCS	-	OSC.G
Citing information	CGP <sup>4</sup>	-	OSG

<sup>1</sup> Patent Assignee Standardized

<sup>2</sup> Citing Accession Number Count

<sup>3</sup> **PIRE** for a comprehensive overview of patent and its citations

<sup>4</sup> Citing patent

# Non-patent Databases: Citation fields

Search Field	SCISEARCH	CAPLUS
Cited Reference	RE	RE
Cited Referenced Author	RAU	RAU
Cited Referenced Publication Year	RPY	RPY
Cited Referenced Work (publication title)	RWK	RWK
Cited Reference Count	-	RE.CNT
Citing Reference Count	-	OSC.G
Display Field	SCISEARCH	CAPLUS
Table of cited references	RE	RETABLE

# Summary

- Citation searching is important to **complete or expand** your search
- **4 key** STN databases for citation searching with unique coverage and powerful retrieval capabilities:
  - Patents Citation Index (DPCI)      search for citing docs
  - SCISEARCH      broad techn. coverage
  - INPA**FAM**DB      highest level of detail
  - CAplus      search for citing docs
- **Patent and non-patent** citation searchable files

# STN<sup>®</sup>

For more information ...

CAS

E-mail: [help@cas.org](mailto:help@cas.org)

Support and Training:

[www.cas.org](http://www.cas.org)

FIZ Karlsruhe

[helpdesk@fiz-karlsruhe.de](mailto:helpdesk@fiz-karlsruhe.de)

Support and Training:

[www.stn-international.de](http://www.stn-international.de)

**STN**

STN is available through FIZ Karlsruhe, Germany  
and Chemical Abstracts Service, U.S.A.