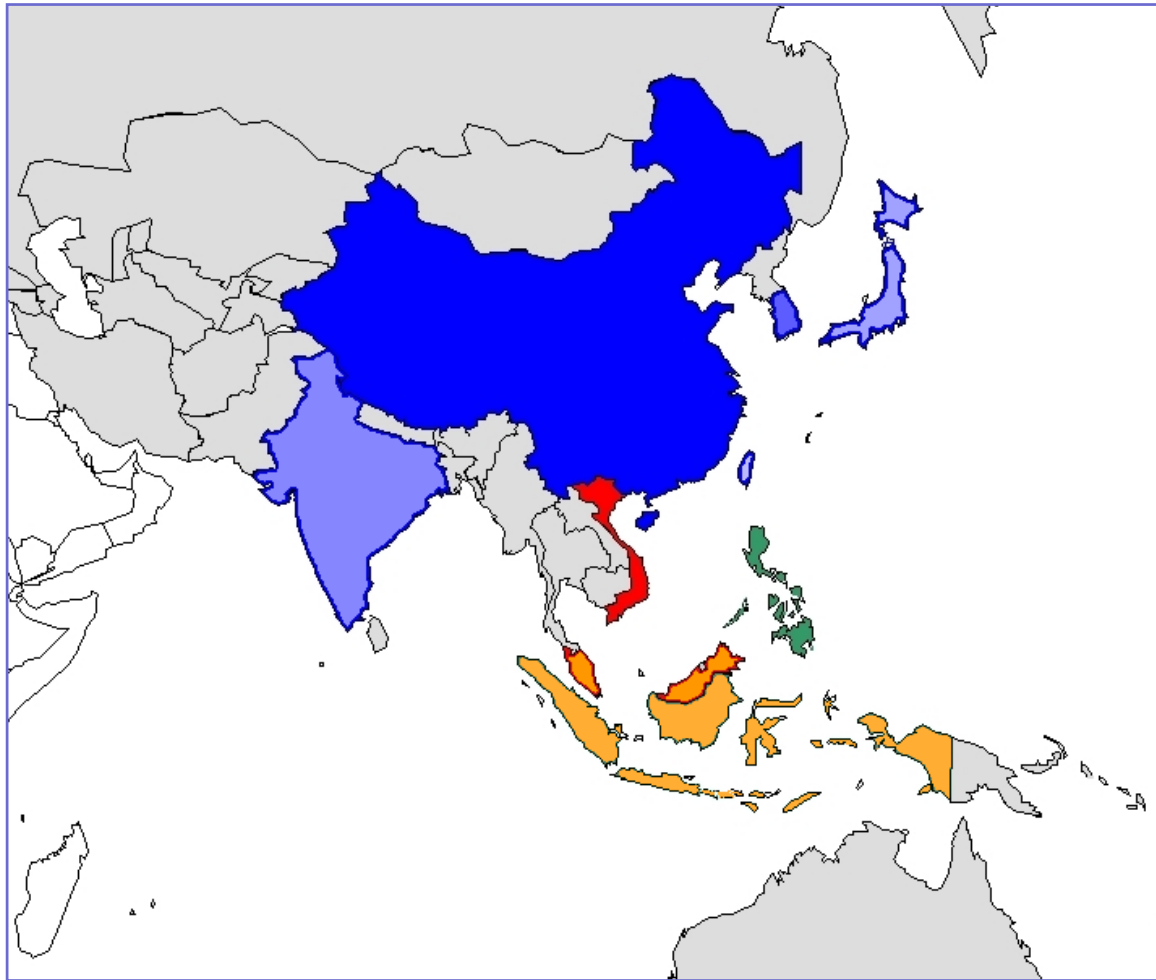


**STN<sup>®</sup>**

Patent information from East Asia  
on STN International<sup>®</sup>

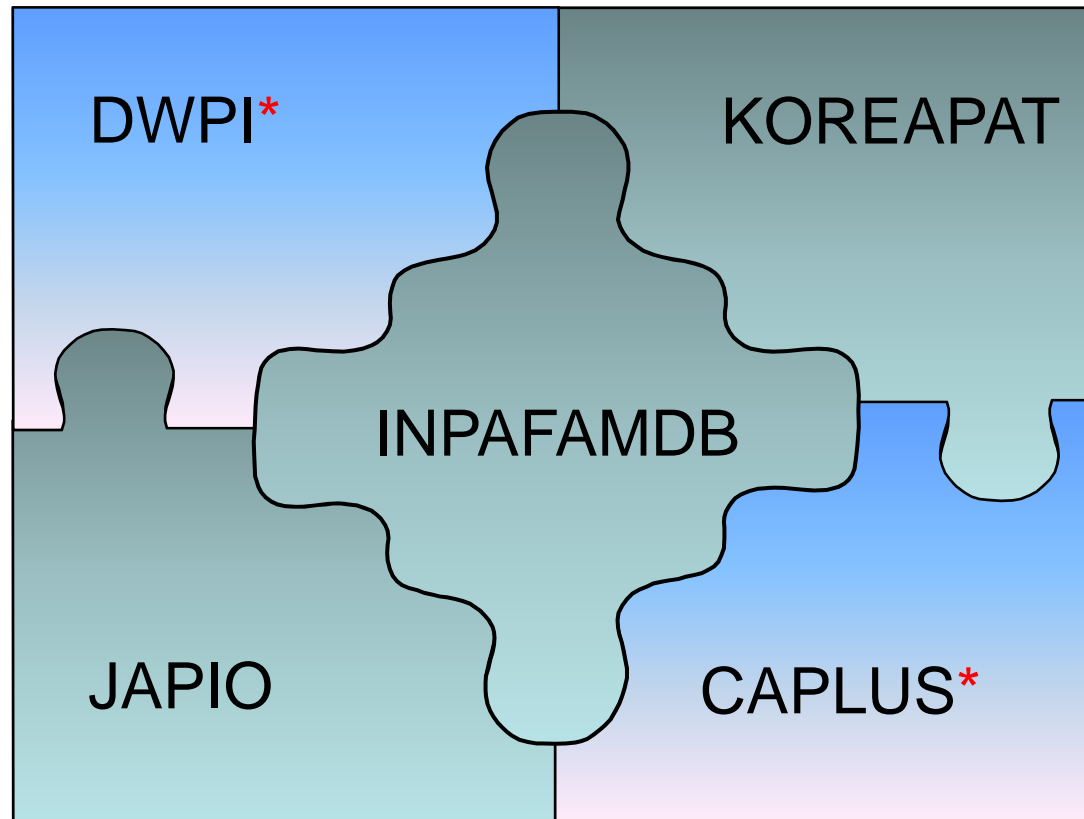
- First level databases from South-East Asia
  - **JAPIO**
  - **KOREAPAT**
- International databases with IP content from South-East Asia
  - Value-added databases
    - **CAPLUS**
    - **WPINDEX**
  - First level databases
    - **INPADOCDB/INPAFAMDB**
- Case study search example

# STN provides Patents and Utility models from all major Asian Patent Authorities



| INPADOC | WPINDEX | CAPLUS |
|---------|---------|--------|
| JP      | JP      | JP     |
| CN      | CN      | CN     |
| KR      | KR      | KR     |
| TW      | TW      | TW     |
| SG      | SG      | SG     |
| IN      | IN      | IN     |
| PH      | PH      |        |
| HK      |         | HK     |
| ID      |         |        |
| MY      |         |        |
| VN      |         |        |

# STN integrates value-added\* and first level patent information from East Asia





- JAPIO contains bibliographic information, abstract and drawings of Japanese unexamined patent applications (Kokai Tokkyo Koho); covers all technologies
- Provided on the PAJ (Patent Abstracts of Japan) CD-ROMs
  - Producer: Japan Patent Information Organization (JAPIO)
  - Coverage: ca. 10 mill. records; ca. 7 mill. images
    - PAJ: from 10/1976 to date
    - INPADOC records from 04/1973-1997 (1.6 mill. records)
  - Update: monthly
  - Timeliness : 3-4 months

# JAPIO records come from the PAJ

L1 ANSWER 1 OF 1 JAPIO © 2009 JPO on STN  
ACCESSION NUMBER: 2008-228563 JAPIO  
TITLE: AUTOMATIC DISCHARGING APPARATUS FOR CLOSING SPRING  
IN  
HAVING  
AIR CIRCUIT BREAKER, AND AIR CIR  
SAME  
INVENTOR: LEE SANG-CHUL; KIMU KI-FAN; YANG HONG-IK; AHN  
KIL-YOUNG

IALLG format.

JAPIO provides  
patent drawings.

PATENT ASSIGNEE(S): LS INDUSTRIAL SYSTEMS CO LTD

PATENT INFORMATION:

| PATENT NO     | KIND | DATE     | ERA    | MAIN IPC |
|---------------|------|----------|--------|----------|
| JP 2008228563 | A    | 20080925 | Heisei |          |

APPLICATION INFORMATION

STN FORMAT: JP 2008-58037 20080307

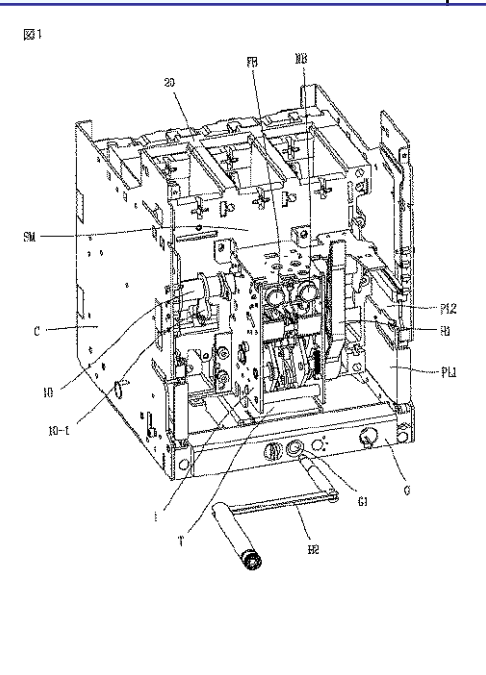
ORIGINAL: JP2008058037 Heisei

PRIORITY APPLN. INFO.: KR 2007-200723213 20070308

SOURCE: PATENT ABSTRACTS OF JAPAN (CD-R Applications, Volume 2008)

ABSTRACT:

PROBLEM TO BE SOLVED: To provide an air circuit breaker discharging a closing spring at a pull-out position in circuit breaker, and an automatic discharging . . .



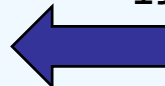
L1 ANSWER 1 OF 1 JAPIO © 2009 EPO on STN  
ACCESSION NUMBER: 1997-302398 JAPIO  
TITLE: PRODUCTION OF AGGREGATED DETERGENT COMPOSITION  
HAVING IMPROVED FLUIDITY  
INVENTOR: EBIHARA FUKUJI; KAZUTA TAKASHI  
PATENT ASSIGNEE(S): PROCTER & GAMBLE CO:THE  
PATENT INFORMATION:

| PATENT NO   | KIND | DATE     | ERA    | MAIN IPC    |
|-------------|------|----------|--------|-------------|
| JP 09302398 | A    | 19971125 | Heisei | C11D0011-00 |

#### APPLICATION INFORMATION

STN FORMAT: JP 1996-137710 19960507  
ORIGINAL: JP08137710 Heisei  
PRIORITY APPLN. INFO.: JP 1996-137710 19960507  
SOURCE: INPADOC  
INT. PATENT CLASSIF.:  
MAIN: C11D0011-00  
SECONDARY: C11D0003-04; C11D0003-06; C11D0003-10;  
C11D0003-12; C11D0003-20; C11D0003-34;  
C11D0003-36; C11D0011-02; C11D0017-06

JAPIO record added from  
INPADOCDB by STN.



# Comparative Japanese patent coverage in patent files on STN

| FILE                    | JP-A/A2* |           |                   | JP-B/B1/B2 |           |                   |
|-------------------------|----------|-----------|-------------------|------------|-----------|-------------------|
|                         | BIB      | Abstracts | Images            | BIB        | Abstracts | Images            |
| JAPIO                   | 1973-    | 1976-**   | 1980-             | -          | -         | -                 |
| WPINDEX***              | 1971-    | 1971-     | 1988-             | 1963-      | 1963-     | 1988-             |
| INPADOCDB/<br>INPAFAMDB | 1973-    | -         | -                 | 1973-      | -         | -                 |
| CAPLUS                  | 1971-    | 1971-     | Chem.<br>drawings | 1916-      | 1916-     | Chem.<br>drawings |

## Notes:

- \* DWPI and INPADOCDB also cover Japanese PCT transfer applications (JP-T), plus INPADOCDB covers Japanese granted patents (JP-C), but JAPIO does not cover any of these.
- \*\* National applications. Abstracts are only provided for foreign applications from 1998 onwards.
- \*\*\* Years are for basic chemical (CPI) patent coverage. JP-A electronics patents are covered from 1982 and all technologies from 1996; JP-Bs are only covered for all technologies from 1999.



- KOREAPAT contains bibliographic information, abstract and drawings of Korean examined patents (B-documents) and unexamined (A-documents); covers all technologies
  - Producer: Korean Institute of Patent Information (KIPI)
  - Coverage: from 1979 to date
    - ca. 1. 070.000 records; ca. 970.000 images
  - Update: monthly
  - Timeliness: 3 month
  - Benefits:
    - high quality title and abstract (translations by specialists)
    - transliterated names of inventors and patent assignees
    - unique coverage of older documents

# KOREAPAT provides enhanced English language titles and abstracts

L1 ANSWER 1 OF 1 KOREAPAT COPYRIGHT 2009 KIPI on STN

ACCESSION NUMBER: 2008:089307 KOREAPAT ED 20081219

TITLE: FENCE FOR PREVENTING SPREADING OF A RED TIDE, COMPRISING POLYMER ELECTROLYTE-PRESSED PILLS WHICH COMPRISE A POLYACRYLAMIDE POWER AND BENTONITE, AND WHICH ARE ATTACHED TO A NET, AND MANUFACTURING METHOD THEREOF

TITLE LANGUAGE: English

INVENTOR(S): PARK, SEA BYEONG; YOON, JEE HYUN; SON, DONG JIN; CHOI, EUN JEONG; LIM, KYUNG MIN

PATENT ASSIGNEE(S): EYANG CHEMICAL CO., LTD.

PATENT INFO TYPE: KRA Unexamined Patent Application

PATENT INFO: KR 2008087078 A 20080930

APPLICATION INFO: KR 2008-89302 20080910

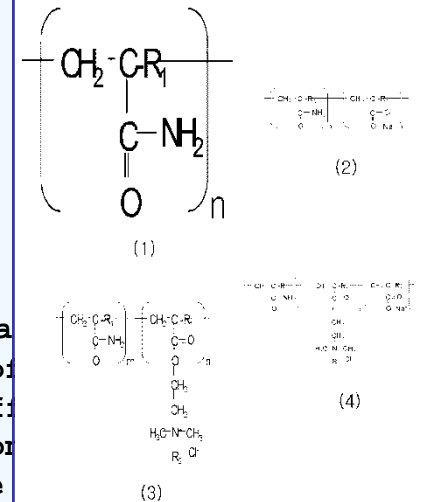
PRIORITY APPLN. INFO: KR 2008-89302 \* 20080910

INT. PATENT CLASSIF.

IPC8 INITIAL: C02F0001-40 [I,A]; C02F0001-52 [I,A]; C02F0001-40 [I,C\*]; C02F0001-52 [I,C\*]

ABSTRACT: PURPOSE: A fence for preventing spreading of a is provided to control effectively diffusion of tide according to generating intensity and diff areas of the red tide by applying a preparation a mixing ratio of polyacrylamide and bentonite

ALLG format.



# Comparative Korean patent coverage in patent files on STN

| FILE                    | KR-A                   |                                |                   | KR-B1   |                                |                   |
|-------------------------|------------------------|--------------------------------|-------------------|---------|--------------------------------|-------------------|
|                         | BIB                    | Abstracts                      | Images            | BIB     | Abstracts                      | Images            |
| KOREAPAT                | 2000-                  | 2000-                          | 2000-             | 1979- * | 1979- *                        | 1979- *           |
| WPINDEX                 | 1997-                  | 2001-                          | 2001-             | 1986-   | 1986 -**                       | 1986-**           |
| INPADOCDB/<br>INPAFAMDB | 1978-<br>1983<br>2000- | 1979-<br>1983<br>2001-<br>2005 | -                 | 1984-   | 1984-<br>1997<br>2001-<br>2005 | -                 |
| CAPLUS ***              | 2000-                  | 2000-                          | Chem.<br>drawings | 2007-   | 2007-                          | Chem.<br>drawings |

## Notes:

\* Since 2000 B-documents are only covered in KOREAPAT if no preceding A-document is available.

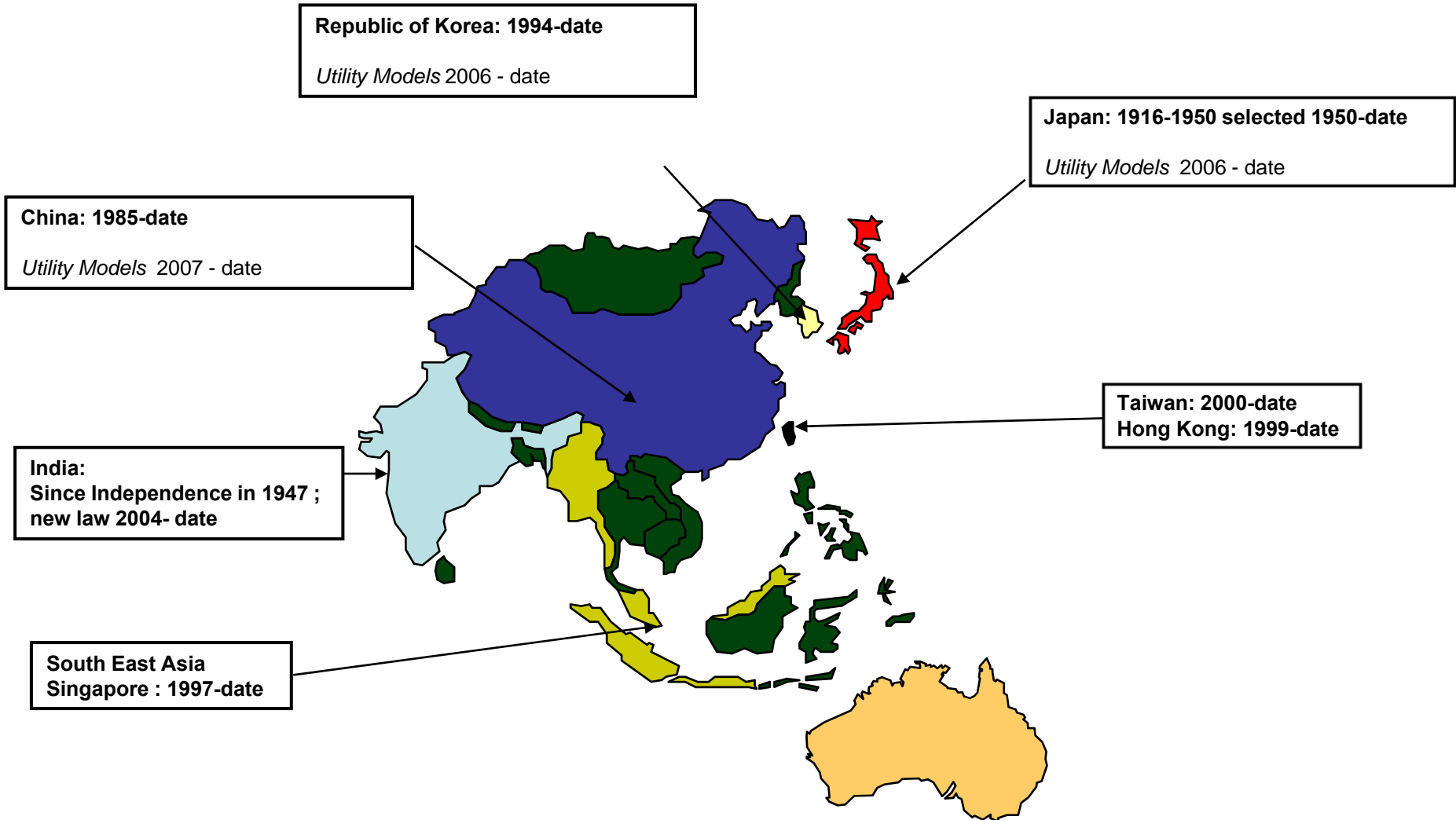
\*\* DWPI Basic abstracts were only provided for Chemical (CPI) and Electronic Engineering (EPI) patents.

\*\*\* Timeliness of 14-days for CAPLUS

# Value-added patent data for Asia are produced by CAS and Thomson Reuters

- Newly written database record in English is created to facilitate retrieval and relevance checking
  - Enhanced **meaningful title** and **patent-focused abstract** reveals the actual invention
  - **Standardized** bibliographic data
  - Additional assignments of **classifications**, **categories** or **controlled terminology** enhance retrieval (e.g. manual codes - DWPI, controlled terms - CAPLUS)
  - **Substance-specific indexing** for chemical and biotech patents: specific **chemical** and **Markush** structures and **biosequences**

- CAPLUS is the most current and comprehensive chemistry bibliographic database
  - Producer: Chemical Abstracts Service
  - Coverage: from 1907 to date
    - ca. 30.5 mio records with
    - ca. 1.2 mio chemical drawings
  - **Asian patents : JP, CN, KR, TW, SG, IN, HK**
  - Update: daily with bibliographic records  
weekly with indexing
  - Benefits:
    - high quality title, abstract and indexing
    - Journals, patents, books, reports, disclosures, dissertations, corporate names; patents from 57 patent offices
    - thesauri for classifications (IPC, NCL, F-Term)
    - company name thesaurus
    - CAS Registry database ( > 97 mio records)



- China
  - 1985 to date
  - **bibliographic information and abstracts within 14 days of publication**
  - Deep substance and subject indexing available in less than 50 days
  - utility models ( CN Y )      2007 -
  - Granted patents ( CN C )      1993 -
  
- South Korea
  - 1994 to date
  - **bibliographic information and abstracts within 14 days of publication**
  - utility models (KRY1 or KRU) 2006 -

- India
  - 1935 to date;
  - **bibliographic information and abstracts available within 14 days of publication**
  - substance and subject indexing; classification codes
  - Indian patent applications back to 2004 (new law!)
- Japan
  - 1916 to date
  - **bibliographic information and abstracts available within 2 days of publication**
  - substance and subject indexing available within 27 days of publication
  - classification codes (Fterm)
  - utility models: 2006 to the present

- Singapore
  - 2000 to date; bibliographic information and abstracts; substance and subject indexing; classification codes
- Taiwan
  - 2000 to date; bibliographic information and abstracts; substance and subject indexing; classification codes
- Hong Kong
  - 1999 to date; bibliographic information and abstracts; substance and subject indexing; classification codes

# CAplus covers Chinese Utility Models

ANSWER 1 OF 10080 CAPLUS COPYRIGHT 2009 ACS on STN  
ACCESSION NUMBER: 2009:121775 CAPLUS  
ENTRY DATE: Entered STN: 02 Feb 2009  
TITLE: Flexible material electroplating apparatus  
INVENTOR(S): Lee, Wen-Cheng; Lee, Lai-Yang; Chen, Ching-Lung  
PATENT ASSIGNEE(S): Intech Machines Co., Ltd., Taiwan  
SOURCE: Shiyong Xinxing Zhuanli Shuomingshu, 11pp.  
CODEN: CNXXAR  
DOCUMENT TYPE: Patent  
LANGUAGE: Chinese  
CLASSIFICATION: 72 (Electrochemistry)  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO.   | KIND  | DATE     | APPLICATION NO.  | DATE     |
|--------------|-------|----------|------------------|----------|
| -----        | ----- | -----    | -----            | -----    |
| CN 201186955 | Y     | 20090128 | CN 2007-20194715 | 20071128 |

PRIORITY APPLN. INFO.: CN 2007-20194715 20071128

PATENT CLASSIFICATION CODES:

| PATENT NO.   | CLASS | PATENT FAMILY CLASSIFICATION CODES                       |
|--------------|-------|--|
| -----        | ----- | -----  |
| CN 201186955 | IPCI  | C25D0007-06 [I,A]; C25D0005-08 [I,A]; C25D0005-00 [I,C*] |

ABSTRACT:

The present utility model relates to a flexible material electroplating apparatus The said apparatus comprises: multiple electroplating tanks aligned along horizontal direction, multiple mobile wheels aligned along horizontal direction, and a jet-flow guide pulley unit. ....

# CAplus JP application with F-Term Indexing

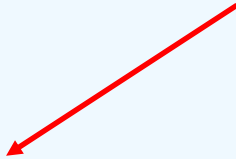
```
AN 2009:143930 CAPLUS
TI Dryer [machine translation]
IN Nishino, Eiji; Mukoyama, Naoki
PA Iseki and Co., Ltd., Japan
SO Japan Kokai Tokkyo Koho, 14pp. CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.          KIND    DATE          APPLICATION NO.    DATE
-----
PI  JP 2009024955    A      20090205     JP 2007-189749    20070720
PRAI JP 2007-189749          20070720

CLASS
PATENT NO.          CLASS  PATENT FAMILY CLASSIFICATION CODES
-----
JP 2009024955    IPCI   F26B0021-00 [I,A]; F26B0021-04 [I,A]; F26B0021-02
[I,C*]; F26B0025-22 [I,A]; F26B0017-14 [I,A];
F26B0017-12 [I,C*]; B27K0005-00 [I,A]
FTERM 2B230/AA27; 2B230/AA30; 2B230/EB05; 2B230/EB12;
3L113/AB03; 3L113/AC04; 3L113/AC45; 3L113/AC46;
3L113/AC50; 3L113/AC67; 3L113/BA03; 3L113/BA18;
3L113/BA29; 3L113/CA02; 3L113/CB23; 3L113/CB32;
3L113/DA04; 3L113/DA10

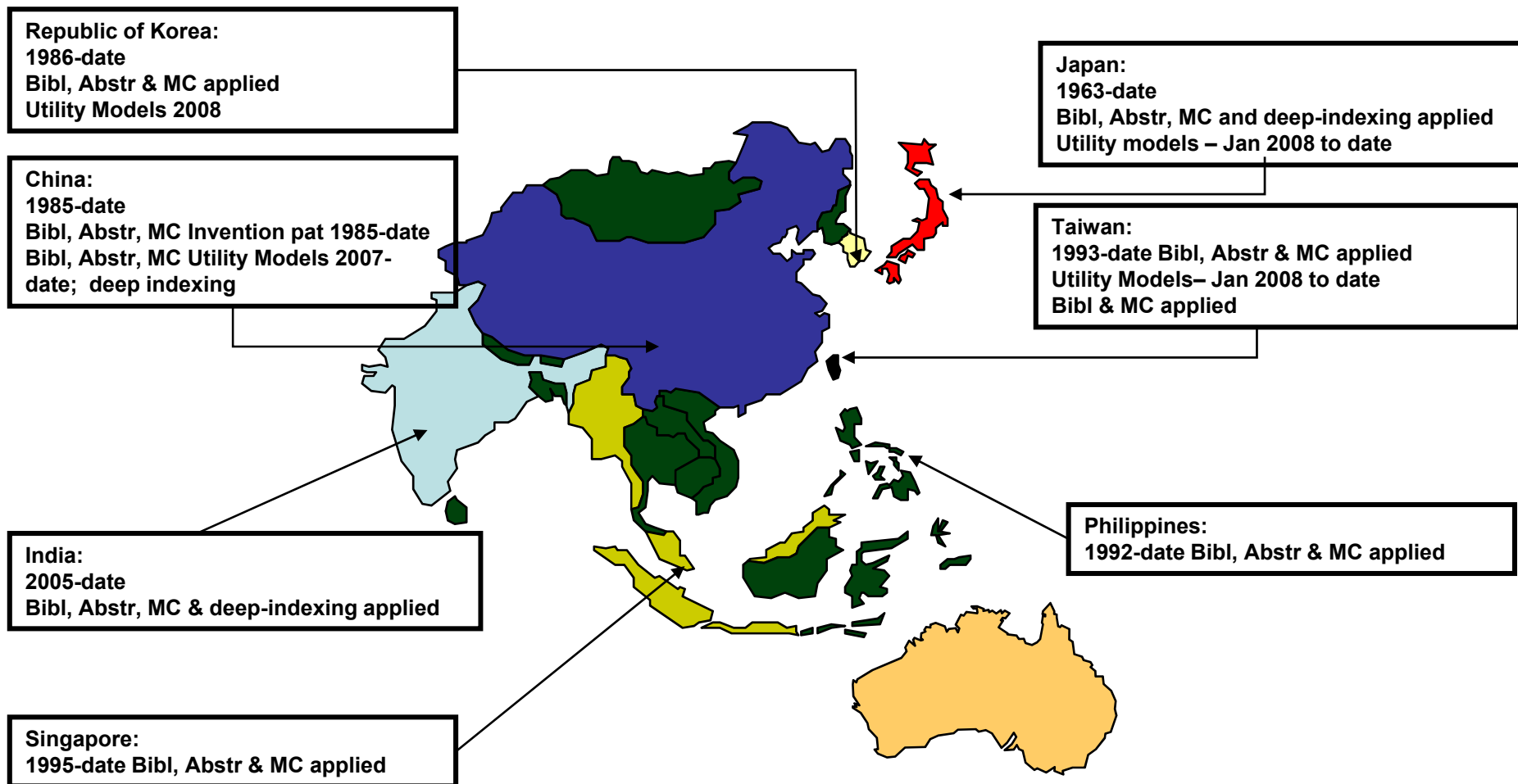
=> E 3L113/AB03+NT/FTERM
E91      448    --> 3L113/AB03/FTERM
        . . . . . Drying gases that pass through the
        materials to be dried
E92      80     NT1   3L113/AB04/FTERM
        . . . . . Drying gases that cause the materials to
        be dried to move

***** END *****
```





- DWPI<sup>SM</sup> is the largest value-added patent file
  - 17,5 million records with 10.4 million selected images
  - Over 35 million member patents from 44 worldwide authorities
  - Asian coverage: **JP, CN, KR, TW, SG, IN, PH**
- Enhanced abstracts and titles
  - Improved relevance and easier scanning of answers
- Concise patent families which include
  - All unique assignee/applicant names
  - Non-convention equivalents (#)
- Patent Assignee Codes
  - For efficient company searching and analysis



# Recent DWPI Asian patent coverage new enhancements

- China (1987 -)
  - Enhanced coverage of Chinese patents
    - Inclusion of Chinese utility models (Sep 2007)
    - Increase depth of “value-add” to existing coverage e.g. deep indexing for CNA and CNY from Jan 2008
    - English translations (human assisted MT) of **all claims** can be searched and displayed at the member level — for Chinese Invention patents and Utility Models in the *DWPI* patent family.
- Japan (1963- selected; 1995- all technologies)
  - Enhanced coverage of Japanese utility models
    - Published since Jan 10, 2008.
    - documentation abstracts and deep indexing
    - F-Term classification available (1966-2007) ; thesaurus in preparation

# Recent DWPI Asian patent coverage enhancements(2)

- Korea (1986 -)
  - Korean utility models from update 200851 (published Jan 2008)
    - title, abstract, manual coding and deep indexing for records with significant chemistry content
    - **all of the claims** (MT) for Korean unexamined and examined patent applications and Utility Models
- Taiwan (1993 -)
  - Resumption in the coverage of Taiwan Unexamined Applications (TWA)
  - Twaiwan utility models from update 200907 (published Jan 2008)
    - Title, manual coding for Basics
    - Backfile loading is planned for 2009



# DWPI provides English translations for all claims of Chinese utility models 25

Member(0001)

PI CN 201084875 Y 20080709 (200852)\* ZH 7[1]

TIEN A motor communication connection device

IN XU J; CAO S; HU D; YAO X; GE Y

PA (QIRU-N) QIRUI AUTOMOBILE CO LTD .....

ABEN The utility model claims a motor communication

comprising a power circuit connected with every circuit, a car combined instrument, a body control module, wherein, the car combined instrument and body control module are connected with a diagnosis device by an.....

CLMEN [CLAIM 1] A motor communication connection device comprises a power circuit (1) connected with every circuit, a car combined instrument (2), a body control module (3), wherein, the car combined instrument (2) and body control module (3) are connected with a diagnosis device (4) by an interface circuit; the interface circuit is connected with car combined instrument (2) and body control module (3) by k-line; the diagnosis device (4) is used for detection, parameter adjustment, important detection parameter setting of car combined instrument and body control module soft/hard ware.

[CLAIM 2] The motor communication connection device according to claim 1, wherein, the interface circuit, comprises triode (Q1, Q2), an interface chip (RS-232) and a connection socket (5), k-line is connected with pin 10 of interface chip (RS-232) by a resistance (R6), then output by pin 7 .....

[CLAIM 4] The motor communication connection device according to claim 1 or 2, wherein, the diagnosis device (4) is an auto diagnostic instrument.

**MEMB** includes a human translation of original title, abstract and all claims (MT) available at member level



# INPAFAMDB is The International Patent Family Database on STN

- **INPAFAMDB** is formed from the EPO DOCDB patent family and INPADOC PRS Legal Status databases
- Coverage of >80 patent authorities from the early 1800s
- The complete archive of European (ECLA, ICO) and International (IPC) classifications back into the 1800s
- Applicant abstracts and/or English translations for 43 patent authorities dating back to the 1890s
- Comprehensive patent and non-patent literature citations for 13 patent authorities
- Fully integrated Legal Status data for 51 authorities
- INPADOCDB is the corresponding file where the records are based on the patent applications

- One-record-per-family file design maximizes multi-file prior-art search synergy with CAplus and DWPI
- ECLA hierarchy/definition PDFs and IPC thesaurus reference tools assist in effective prior-art searching
- FIZ Karlsruhe editorial corrections and Quality Control provide accurate and comprehensive patent families
- Streamlined family and legal status SDI/Alert options provide only what you need via extensive and readily customizable update and display options

# A typical INPAFAMDB record

```
AN      36877781 INPAFAMDB EDF 20080626 EWF 200826 UPFB 20080724 UWF 200830
TI      Wiederaufladbare Lithiumbatterie.
        - Rechargeable lithium battery.
        - Batterie au lithium rechargeable.
INS     ROH SAE-WEON, KR; MUN IN-TAE, KR; SONG EUI-HWAN, KR
PAS     SAMSUNG SDI CO LTD, KR
        - ROH SAE-WEON; MUN IN-TAE; SONG EUI-HWAN
IPCI    H01M0010-40      [I,A ]; H01M0010-36      [I,A ]; H01M0004-02      [I,A ];
        H01M0004-48      [I,A ]; H01M0006-16      [I,A ]; H01M0010-36      [I,C*];
        H01M0004-02      [I,C*]; H01M0004-48      [I,C*]; H01M0006-16      [I,C*]
EPC     H01M0004-13; H01M0010-052; H01M0010-0569
AB      (EP 1936731 A1)
```

BRIEF display format.

A rechargeable lithium battery is provided that includes a negative electrode including a negative active material, a positive electrode including a positive active material, and an electrolyte. The electrolyte includes a lithium salt and a non-aqueous organic solvent including from 1 to 20 volume% of a cyclic carbonate and from 80 to 99 volume% of a linear carbonate. The positive electrode has an active mass density of 3.7g/cc or greater. The rechargeable lithium battery shows improved cycle-life and storage characteristics at high temperatures, and good high rate characteristics.

## PATENT FAMILY INFORMATION INPAFAMDB

### +----- PUBLICATIONS -----+

|                      |          |          |
|----------------------|----------|----------|
| <b>CN 101202362</b>  | <b>A</b> | 20080618 |
| EP 1936731           | A1       | 20080625 |
| <b>JP 2008147153</b> | <b>A</b> | 20080626 |
| US 20080138713       | A1       | 20080612 |

### +----- APPLICATIONS -----+

|                  |   |          |
|------------------|---|----------|
| CN 2007-10112566 | A | 20070621 |
| EP 2007-110033   | A | 20070612 |
| JP 2007-98482    | A | 20070404 |
| US 2007-757298   | A | 20070601 |

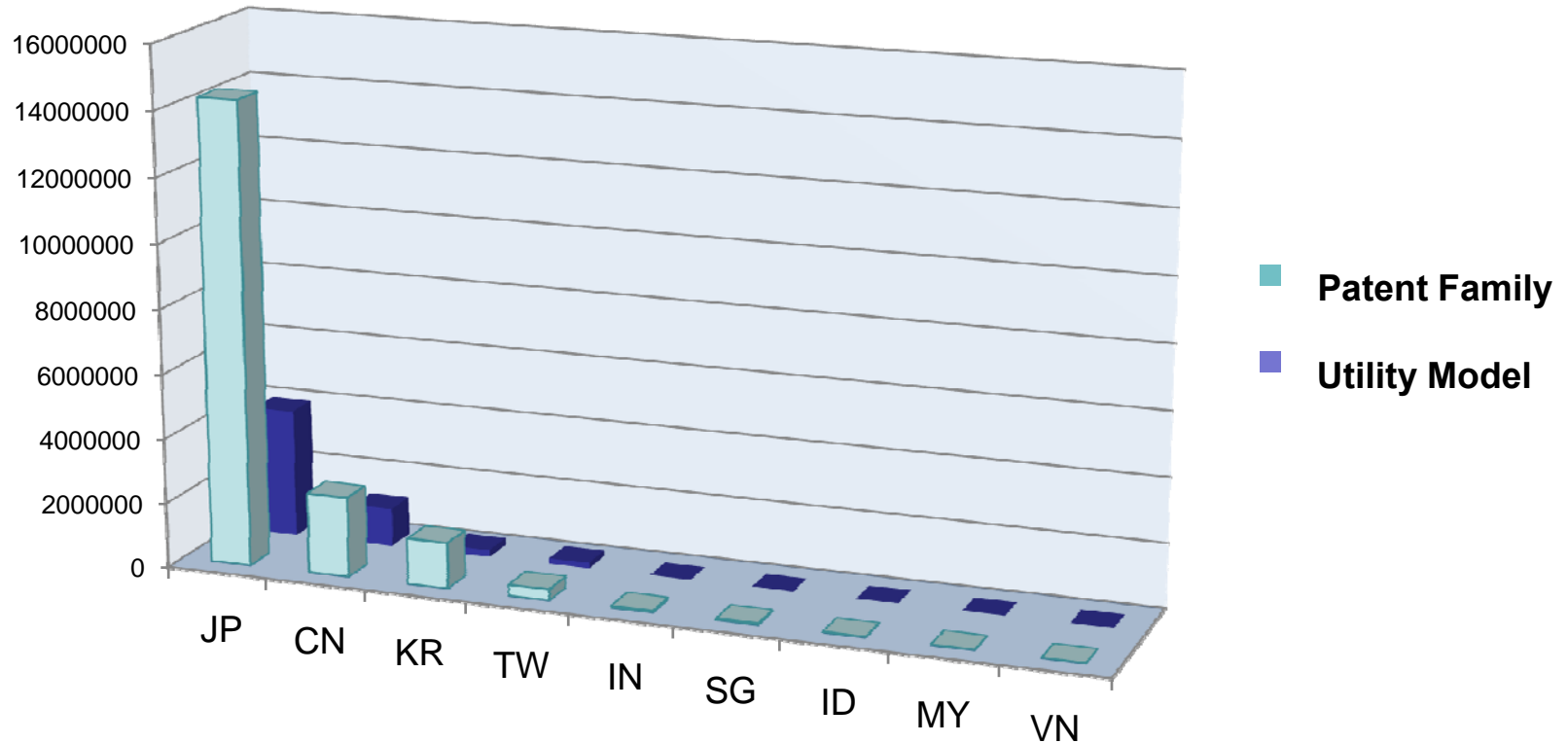
### +----- PRIORITIES -----+

|                |   |          |
|----------------|---|----------|
| KR 2006-126257 | A | 20061212 |
|----------------|---|----------|

1 priority, 4 applications, 4 publications

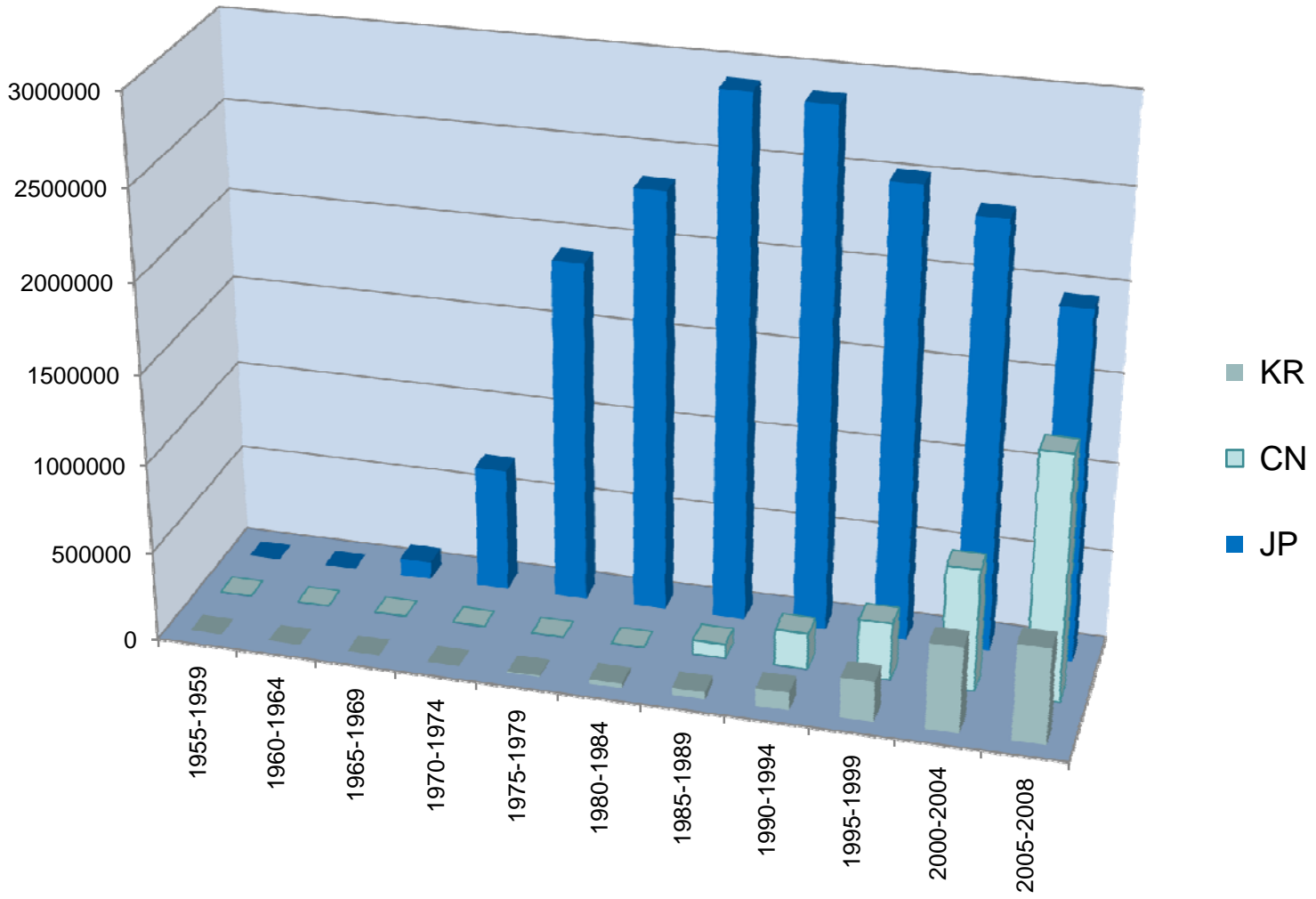
# Asia applications in INPAFAMDB

Data coverage:



| Country       | JP         | CN        | KR        | TW      | IN     | SG     | ID     | MY    | VN  |
|---------------|------------|-----------|-----------|---------|--------|--------|--------|-------|-----|
| Patent Family | 14.312.091 | 2.469.102 | 1.415.297 | 336.094 | 51.136 | 42.760 | 14.151 | 9.024 | 163 |
| Utility Model | 3.966.150  | 1.181.838 | 213.004   | 168.800 | 0      | 0      | 0      | 1     | 52  |

# Asia applications in INPAFAMDB (cont.)



TI Call simultaneous preemptive removing method in distribution call processing system.

TL English

TIO 分布式呼叫处理系统中的呼叫同抢消除方法

IN WEIBIN WANG; JIANYE CHEN; LIHUA ZHANG

INS WANG WEIBIN, CN; CHEN JIANYE, CN; ZHANG LIHUA, CN

INO 王卫斌

PA ZHONGXING COMMUNICATION CO., LTD.

PAS ZHONGXING COMM CO LTD, CN

PAO 中兴通讯股份有限公司

DT Patent

PI CN 1561138 A 20050105

PIT CNA UNEXAMINED APPLICATION FOR A PATENT FOR INV.

DAV 20050105 unexamined-printed-without-grant

STA PRE-GRANT PUBLICATION

AI CN 2004-10037327 A 20040428

AIO CNA2004100373272

AIT CNA Patent application

PRAI CN 2004-10037327 A 20040428 (CNA)

CN 2004-10006341 A 20040226 (CNA)

PRAO 2004100063416

PRAIT CNA Patent application

IC.V 7

ICM H04Q0007-38

IPCR H04Q0007-38 [I,A]  
H04Q0007-38 [I,C\*]

ABO 本发明公开了一种分布式呼叫处理系统中的呼叫同抢消除方法，定义了两个状态：S0表示未收到呼叫请求，S1表示已为本端呼叫分配资源，S0状态下，本端为呼叫分配资源成功并向远端申请资源后，迁入S1，否则保持为S0；S1状态下，收

In **STN Express >V8.2** and **STN on the Web** converted UTF8 - characters allow the online display of, e.g. a Chinese patent application with original characters. The non-Latin character sets must be installed!

Formats: **ALLO** or **MAXO**

The transcripts in PDF or RTF formats show the original characters also!

# Number of publications or priorities from KR, CN, JP, TW, SG, and IN with English full-text or abstract 32

(2009/03)

| Priority Countries (IPRC)<br>with English full-text or abstract |           | JP        | CN      | KR      | TW      | SG    | IN     |
|---|-----------|-----------|---------|---------|---------|-------|--------|
|   | PCTFULL   | 181.754   | 17.386  | 31.733  | 90      | 1.196 | 3.890  |
|   | EPFULL    | 330.230   | 4.646   | 19.643  | 135     | 240   | 380    |
|   | GBFULL    | 72.666    | 750     | 5.820   | 1.223   | 223   | 256    |
|   | USPATFULL | 1.103.825 | 18.762  | 148.396 | 57.283  | 1.772 | 3.565  |
|   | CAPLUS *) | 2.590.374 | 389.086 | 330.872 | 35.437  | 999   | 26.844 |
|   | WPINDEX   | 5.672.955 | 909.337 | 745.627 | 100.270 | 4.739 | 25.371 |

| Patent Countries (IPC)<br>with English abstract |           | JP        | CN        | KR        | TW      | SG     | IN      |
|---|-----------|-----------|-----------|-----------|---------|--------|---------|
|   | INPAFAMDB | 2.028.783 | 1.273.370 | 795.644   | 180.648 | 40.270 | 25.150  |
|   | CAPLUS *) | 3.067.890 | 647.682   | 420.879   | 78.800  | 9.171  | 97.666  |
|   | WPINDEX   | 6.871.388 | 1.526.731 | 1.181.054 | 242.939 | 34.862 | 119.831 |

\*) chemistry-related information

# Utility models from Asia

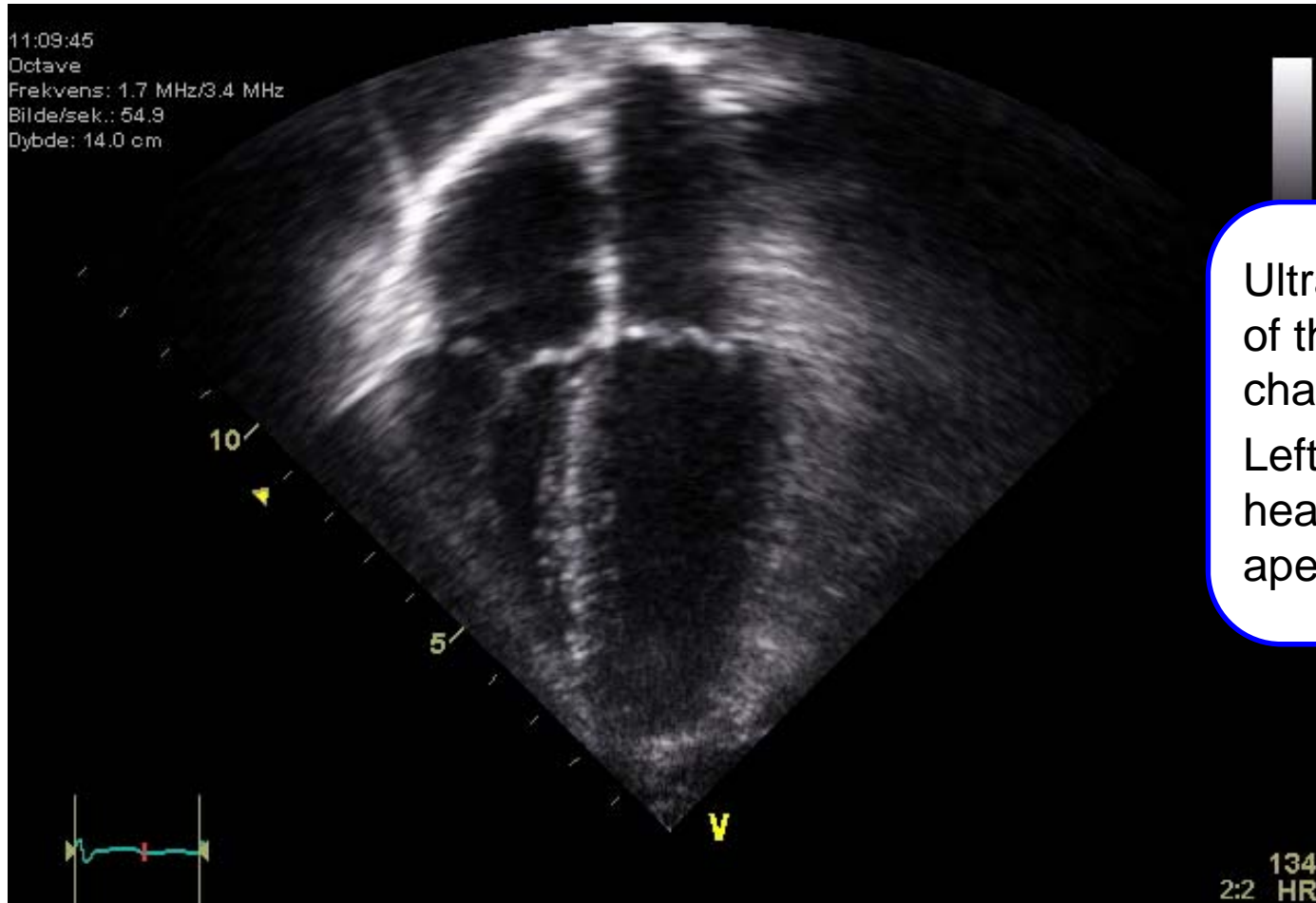
| Utility Model | CAPLUS | INPADOCDB/<br>INPAFAMDB *) | WPINDEX |
|---------------|--------|----------------------------|---------|
| CN            | 2007-  | 1985-                      | 2007-   |
| JP            | 2006-  | 1965-2001                  | 2008-   |
| KR            | 2006-  | 1978-2004                  | 2008    |
| TW            | -      | 2000-2008/01               | 2008    |

\*) bibliographic information only

**Search subject:** A method for analyzing cardiac performance by automated shape detection in cardiac ultrasound images, by (a) acquiring a sequence of ultrasound images of the heart, (b) automatically tracing the shape of the heart in each of the images, (c) segmenting the shape images, and (d) automatically scoring the image segments by reference to an anatomically correct reference-card of typical values.

**Background:** The colleague is a research engineer, and he wants to see just the most relevant **patents applied in Asia**.

# Acquiring a sequence of ultrasound images of the heart. . .



Ultrasound picture of the heart in four chamber view.  
Left side of the heart to the right, apex down.

Source: [www.wikipedia.org](http://www.wikipedia.org)

# A possible strategy is this. . .

1. Start with a sci-tech search in the **ENGINEERING cluster** too, review answers for **extra terminology**, check thesauri etc.
2. Test the query in **DWPI** (file WPINDEX), review answers, identify suitable **IPC** and **Manual Codes**. Use **ECLA** and **F-Terms** in addition to IPC.
3. Revise the patent query and re-run in **WPINDEX**, **CAPLUS**, **INPAFAMDB**, **JAPIO**, and **KOREAPAT** and **restrict the answers to Asia countries**. Sort, group, de-duplicate and identify the best answers.

# Some key broad concepts from which to form the first simple search question

|                   |                |               |                 |
|-------------------|----------------|---------------|-----------------|
| <b>ULTRASOUND</b> | <b>CARDIAC</b> | <b>SHAPE</b>  | <b>SEQUENCE</b> |
| <b>ULTRASONIC</b> | <b>HEART</b>   | <b>BORDER</b> | <b>SERIES</b>   |

Identify any obvious synonyms that come to mind, if possible.

# Use the INDEX command to find relevant technology files with hits

=> INDEX ENGINEERING -PATENTS -BUSINESS

INDEX '2MOBILITY, AEROSPACE, ALUMINIUM,

37 FILES IN THE FILE LIST IN STNINDEX

Index Engineering **minus** clusters  
Patents and Business.

Enter SET DETAIL ON to see search term postings or to view search error messages that display as 0\* with SET DETAIL OFF.

=> SET PLURALS ON; SET DETAIL ON; SET ABBREV ON; SET SPELLINGS ON

SET PLURALS ON = automatic plurals  
SET ABBREV ON = automatic abbreviations  
SET DETAIL ON = show all search details  
SET SPELLINGS ON = American/English spelling variations

=> S (ULTRASOUND# OR ULTRASONIC#) AND (CARDIAC? OR HEART?) AND  
(BORDER# OR SHAPE#) AND (SEQUENCE# OR SERIES)

7 FILES HAVE ONE OR MORE ANSWERS, 37 FILES SEARCHED IN STNINDEX

L1 QUE (ULTRASOUND# OR ULTRASONIC#) AND (CARDIAC? OR HEART?) AND (BORDER#  
OR SHAPE#) AND (SEQUENCE# OR SERIES) AND JOURNAL/DT

# Review relevant records with D TRIAL

L4 ANSWER 3 OF 94 SCISEARCH COPYRIGHT (c) 2009 The Thomson Corporation  
AN 1996:412192 SCISEARCH  
GA The Genuine Article (R) Number: UN483  
TI A multiple active **contour** model for **cardiac** boundary detection  
on echocardiographic **sequences**  
REC Reference Count: 24  
CC ENGINEERING, BIOMEDICAL; RADIOLOGY, NUCLEAR MEDICINE & MEDICAL IMAGING  
STP KeyWords Plus (R): TWO-DIMENSIONAL ECHOCARDIOGRAPHY; ENDOCARDIAL  
EDGE-DETECTION; DETECTION ALGORITHM; **ULTRASOUND** IMAGES;  
REAL-TIME; BALLOONS; ONLINE; AREA  
. . . .  
L4 ANSWER 1 OF 94 INSPEC (C) 2009 IET on STN  
TI Multidimensional, multistage wavelet footprints: a new tool for image  
segmentation and feature extraction in medical **ultrasound**  
CC A8760B Sonic and ultrasonic radiation (medical uses); A8770E Patient  
diagnostic methods and instrumentation; B7510H Sonic and ultrasonic  
radiation (biomedical imaging/measurement); B6135 Optical, image and  
video signal processing; C7330 Biology and medical computing; C5260B  
Computer vision and image processing techniques  
CT **echocardiography** feature extraction; image enhancement; image motion  
analysis; image reconstruction; image segmentation; image **sequences**;  
medical image processing; wavelet transforms  
ST multidimensional multistage wavelet footprints; image segmentation;  
feature extraction; medical ultrasound; cardiac structures; image  
.....

Identify new search terms.

# Review relevant records with D TRIAL

L4 ANSWER ... COMPENDEX COPYRIGHT 2009 EEI on STN  
TI Finite-element-method (FEM) model generation of time-resolved 3D  
echocardiographic geometry data for mitral-valve volumetry.  
CC 461.1 Biomedical Engineering; 461.6 Medicine; 801.2 Biochemistry; 921.6  
Numerical Methods; 723.5 Computer Applications  
CT \*Biomedical engineering; Volumetric analysis; **Echocardiography**; . . .  
ST Transesophageal echocardiography (TEE); Mitral-valve volumetry; . . .  
. . .

L4 ANSWER ... PASCAL COPYRIGHT 2009 INIST-CNRS. ALL RIGHTS RESERVED.  
TIEN Prior based **cardiac** valve segmentation in echocardiographic **sequences**  
:  
Geodesic active contour guided by region and **shape** prior  
Pattern recognition and image analysis : Estoril, 7-9 June 2005  
CC 001D02C03; Applied sciences; Artificial intelligence  
CT Image analysis; Pattern recognition; . . . **Edge** detection; Computer  
vision; Image processing; Valve; Echocardiography; . . . Contour line  
. . .

Synonyms and controlled  
terms are visible in **D TRIAL**.

L4 ANSWER ... OF 94 ELCOM COPYRIGHT 2009  
TI Detecting left ventricular endocardial a  
digital two-dimensional echocardiography.  
CC E ES8.2.2 CARDIOVASCULAR (EA)  
UT Medical Electronics; Cardiovascular System; **Echocardiography**; Image  
Processing; Computer Aided Analysis

# Quite a few synonyms and controlled terms have been uncovered

| <b>ULTRASOUND</b>              | <b>CARDIAC</b>  | <b>SHAPE</b>      | <b>SEQUENCE</b> |
|--------------------------------|-----------------|-------------------|-----------------|
| <b>ULTRASONIC</b>              | <b>HEART</b>    | <b>BORDER</b>     | <b>SERIES</b>   |
| <b>SONOGRAPHY</b>              | <b>CORONARY</b> | <b>CONTOUR</b>    | <b>MOTION</b>   |
| <b>ACOUSTIC<br/>TOMOGRAPHY</b> | <b>CARDIO-</b>  | <b>EDGE</b>       | <b>TRACKING</b> |
| <b>ECHOCARDIOGRAPHY</b>        |                 | <b>3D</b>         | <b>TIME</b>     |
| <b>PHONOCARDIOGRAPHY</b>       |                 | <b>TOMOGRAPHY</b> |                 |
| <b>ULTRASONOCARDIOGRAPHY</b>   |                 |                   |                 |
| <b>SONOCARDIOGRAPHY</b>        |                 |                   |                 |

# The synonyms can be turned into a text file to upload via STN Express (cont.)

=> FILE LINPAFAM

=> QUE ULTRASOUND# OR ULTRASONIC? OR SONO  
ACOUSTIC? (3A) TOMOGRAPH?

L5 QUE ULTRASOUND# OR ULTRASONIC? OR SONOGRAPH? OR SONOGRAM? OR  
ACOUSTIC?(3A) TOMOGRAPH?

=> QUE CARDIAC? OR HEART? OR CORONAR?

L6 QUE CARDIAC? OR HEART? OR CORONAR?

=> QUE ECHOCARDIO? OR PHONOCARDIO? OR SONOCARDIO? OR  
ULTRASONOCARDIO?

L7 QUE ECHOCARDIO? OR PHONOCARDIO? OR SONOCARDIO? OR ULTRASONOCARDIO?

=> QUE BORDER# OR SHAPE# OR CONTOUR# OR EDGE# OR 3D OR (3 OR  
THREE)(W)(DIMENSIONAL OR D) OR TOMOGRAPH?

L8 QUE BORDER# OR SHAPE# OR CONTOUR# OR EDGE# OR 3D OR (3 OR  
THREE)(W)(DIMENSIONAL OR D) OR TOMOGRAPH?

=> QUE SEQUENCE# OR SERIES OR TIME# OR MOTION# OR TRACK?

L9 QUE SEQUENCE# OR SERIES OR TIME# OR MOTION# OR TRACK?

A cost effective place to upload the query L-numbers is in the LINPAFAMDB learning file.

# Run a WPINDEX subject search to include the new original publication text

- The WPINDEX basic index (/BI) comprises enhanced titles and abstracts from the *invention* (family) part
- The new **Basic Index Extension** (/BIEX) field comprises original titles, abstracts and main (1<sup>st</sup>) claims from the *members* (publication) part

```
=> FILE WPINDEX
=> S ((L5 (S) L6) OR L7) AND L8(S)L9
L10      190 ((L5 (S) L6) OR L7) AND L8(S)L9
```

```
=> SET SFIELDS BI BIEX
SET COMMAND COMPLETED
```

SET SFIELDS can be used to change the default search index.

```
=> S L10
L14      317 ((L5 (S) L6) OR L7) AND L8(S)L9
```

127 additional answers are found by adding /BIEX.

# Test the literature query in WPINDEX and review enhanced patent titles

=> SORT OCC L14 1-

PROCESSING COMPLETED FOR L14

L15 317 SORT OCC L14 1-

=> D AN TI 1-10

....

L15 ANSWER 2 OF 317 WPINDEX COPYRIGHT 2009

AN 2009-A28533 [01] WPINDEX

TI Ultrasonic image processing apparatus for obtaining wall **motion** information by **tracking contours** of endocardium and epicardium, has display controller controlling display for **time** phases to display ultrasonic image based on image data

....

L15 ANSWER 9 OF 317 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on **STN**

AN 1990-342557 [46] ~~WPINDEX~~

TI Trans-oesophageal **echo-cardiographic** equipment - uses **ultrasonic** diagnostic appts. with transducer to produce image series of parallel planes over **heart** cycle

"SORT OCC" to rank answers on the basis of the total number of occurrences of search terms

The search immediately highlights additional terms we must use for searching patent files.

# Analyze the answer set to identify relevant patent classification codes

=> SET ICFORMAT ON

Use SET ICFORMAT to normalize pre-Reform IPC codes to the Reform format for analysis.

=> ANA L15 IPC LEN 8 MC LEN 7

L16 ANALYZE L15 1- IPC MC LEN 8 7 : 441

=> D DOC IPC

L16 ANALYZE L15 1- IPC MC LEN 8 7 : 441

IPC = International Patent Classification  
MC = Manual Codes

| TERM # | # OCC | # DOC | % DOC | IPC MC       |
|--------|-------|-------|-------|--------------|
| 1      | 891   | 225   | 70.98 | A61B0008/IPC |
| 6      | 296   | 85    | 26.81 | A61B0005/IPC |
| 8      | 124   | 53    | 16.72 | G01S0015/IPC |
| 9      | 129   | 47    | 14.83 | G06T0007/IPC |
| 10     | 96    | 45    | 14.20 | G01S0007/IPC |
| 12     | 96    | 37    | 11.67 | G06K0009/IPC |
| 13     | 67    | 33    | 10.41 | G06T0001/IPC |
| 15     | 79    | 31    | 9.78  | A61B0019/IPC |
| 16     | 90    | 30    | 9.46  | A61B0006/IPC |
| 19     | 66    | 22    | 6.94  | G06T0017/IPC |

# Use the IPC thesaurus in WPINDEX to confirm class definition and hierarchy

=> E A61B0008-00+HIE/IPC

```

E1          0    BT4    A/IPC
                SECTION A - HUMAN NECESSITIES
E2          0    BT4    HEALTH; AMUSEMENT/IPC
E3          0    BT3    A6/IPC
E4          0    BT2    A61/IPC
                MEDICAL OR VETERINARY SCIENCE; HYGIENE
E5        274089  BT1    A61B/IPC
                DIAGNOSIS; SURGERY; IDENTIFICATION
E6          13589  -->   A61B0008-00/IPC
                Diagnosis using ultrasonic, sonic or infrasonic .
                .
                CORE
                VALID FROM 19850101 TO PRESENT ( IPC EDITION: 4-8 )
E7          460   NT1    A61B0008-02/IPC
                . Measuring pulse or heart rate
                CORE
                VALID FROM 19850101 TO PRESENT ( IPC EDITION: 4-8 )
. . . .
E15         143   NT2    A61B0008-15/IPC
                . . Transmission-tomography
                ADVANCED
                VALID FROM 19900101 TO PRESENT ( IPC EDITION: 5-8 )

```

IPC A61B0008 is ideal for our search.

Note new synonym!

infrasonic

\*\*\*\*\* END \*\*\*\*\*

# Display the analysis of WPINDEX Manual Codes (slide 47)

=> D DOC MC

L16 ANALYZE L15 1- IPC MC LEN 8 7 : 441 TERMS

| TERM # | # OCC | # DOC | % DOC | IPC MC     |
|--------|-------|-------|-------|------------|
| 2      | 217   | 199   | 62.78 | S05-D03/MC |
| 3      | 163   | 163   | 51.42 | T01-J06/MC |
| 4      | 204   | 137   | 43.22 | T01-J10/MC |
| 5      | 100   | 91    | 28.71 | S03-E08/MC |
| 7      | 59    | 54    | 17.03 | S05-D01/MC |
| 11     | 42    | 42    | 13.25 | T01-S03/MC |
| 14     | 47    | 32    | 10.09 | S05-D02/MC |
| 17     | 35    | 25    | 7.89  | B12-K04/MC |
| 18     | 24    | 24    | 7.57  | S05-D07/MC |
| 20     | 36    | 20    | 6.31  | V06-V04/MC |

Derwent Manual Codes are a good indicator of technology – the codes tend to be more use/application focused than IPCs.

# Use the MC thesaurus in WPINDEX to confirm class definition and hierarchy

Manual Code **S05-D03** is ideal for our search.

=> E S05-D03+ALL/MC

|     |         |        |  |
|-----|---------|--------|--|
| E16 | WPINDEX | 258431 | BT2 S05/MC<br>DEF ELECTRICAL MEDICAL EQUIPMENT   |
| E17 | WPINDEX | 3360   | BT1 S05-D/MC<br>DEF ELECTRICAL DIAGNOSIS   |
| E18 | WPINDEX | 8081   | --> S05-D03/MC<br>DEF ULTRASONIC DIAGNOSIS   |
| E19 | WPINDEX | 956    | NT1 S05-D03A/MC<br>DEF ULTRASONIC DIAGNOSIS - TRANSDUCERS<br>HNTE (1992- )                         |
| E20 | WPINDEX | 1263   | NT2 S05-D03A1/MC<br>DEF ULTRASONIC DIAGNOSIS - TRANSDUCER<br>DEVICE DETAILS<br>HNTE (1992- )       |
| E21 | WPINDEX | 734    | NT2 S05-D03A2/MC<br>DEF ULTRASONIC DIAGNOSIS - ARRANGEMENTS<br>OF TRANSDUCERS<br>HNTE (1992- )     |
| E22 | WPINDEX | 1668   | NT1 S05-D03B/MC<br>DEF ULTRASONIC DIAGNOSIS - EQUIPMENT<br>OTHER THAN TRANSDUCERS<br>HNTE (1992- ) |
| ... |         |        |  |

# F-Term 4C601: Ultrasonic diagnosis equipment

| 4C601 |                             | Ultra sonic daignosis equipment             |  |   |                              | <a href="#">A61B8/00-8/14</a>       |  |
|-------|-----------------------------|---|--|---|------------------------------|-------------------------------------|--|
| BB    | BB00                        | BB01  | BB02   | BB03  |                              | BB05                                | BB06   |
|       | SCANNING SYSTEMS            | .Image pick-up spaces being one-dimensional | .Image pick-up spaces being two-dimensional    | .Image pick-up spaces being three-dimensional |                              | .Ultrasonic beam deflection systems | ..Electronic scanning                                |
| BB    | BB10                        | BB11  | BB12   | BB13  | BB14                         | BB15                                | BB16   |
|       | ...Acoustic mirror movement | ...Oscillator movement                      | ...Movement modes                              | ....Linear movement (linear)                  | ....Rotary movement (radial) | ....Oscillating movement (sector)   | ..Combination of electronic type and mechanical type |
| BB    |                             | BB21  | BB22   | BB23  | BB24                         | BB25                                | BB26   |
|       |                             | .Linear                                     | .Convex  | .Sector                                       | .Radial                      | .Arc                                | .Spiral  |
| BB    | BB30                        |   |  |   |                              |                                     |  |
|       | .Others                     |   |  |   |                              |                                     |  |
| DD    | DD00                        | DD01  | DD02   | DD03  | DD04                         | DD05                                | DD06   |
|       | MEASURING OBJECTS           | .Thickness, width, or length                | ..Body fat layer thickness, or body fat amount | .Blood flow                                   | ..Blood flow amount          | ..Pulsation                         | .Blood pressure                                      |
| DD    | DD10                        | DD11  | DD12   | DD13  | DD14                         | DD15                                |  |
|       | .Bone                       | .Head                                       | .Teeth, or gums                                | .Eyes   | .Blood vessel walls          | .Heart                              |  |
| DD    | DD20                        | DD21  | DD22   | DD23  |                              |                                     | DD26   |
|       | ..Speeds of sound           | ..Attenuation                               | ..Temperature                                  | ..Excitation, or pressurization               |                              |                                     | .Bodily function measuring                           |

# Recall the strategy. . .

1. ...

2. ...

**3. ▶ revise the patent query**

**▶ re-run in WPINDEX, CAPLUS,  
INPAFAMDB, JAPIO, and KOREAPAT**

**▶ restrict to Asia patent countries**

**▶ sort, group, de-duplicate, and  
identify the best answers**

# For the patent files we need to revise the query again – synonyms and codes

| ULTRASOUND             | CARDIAC  | SHAPE        | SEQUENCE  |
|------------------------|----------|--------------|-----------|
| ULTRASONIC             | HEART    | BORDER       | SERIES    |
| SONOGRAPHY             | CORONARY | CONTOUR      | MOTION    |
| ACOUSTIC<br>TOMOGRAPHY | CARDIO-  | EDGE         | TRACKING  |
| SONIC TOMOGRAPHY       | CARDIU-  | 3D           | TIME      |
| ULTRASONOGRAPHY        | CARDIA-  | TOMOGRAPHY   | REALTIME  |
| A61B0008/IPC           |          | STEREOSCOPIC | GRADATION |
| S05-D03/MC             |          | 4D           | MOVEMENT  |
| ECHOCARDIOGRAPHY       |          | BOUNDARY     | CYCLE     |
| PHONOCARDIOGRAPHY      |          |              |           |
| ULTRASONOCARDIOGRAPHY  |          |              |           |
| SONOCARDIOGRAPHY       |          |              |           |

# The revised list of terms can be uploaded via STN Express (cont.)

=> FILE LWPI ; DEL HIS YES

A cost effective place to upload the query L-numbers is in a learning file. Delete the history first.

=> QUE ULTRASOUND? OR ULTRASONIC? OR INFRASONIC? OR . . .  
L1 QUE ULTRASOUND? OR ULTRASONIC? OR INFRASONIC? OR INFRASOUND? OR . . .

=> QUE ?CARDIA? OR ?CARDIO? OR ?CARDIU? OR HEART? OR ?CORONAR?  
L2 QUE ?CARDIA? OR ?CARDIO? OR ?CARDIU? OR HEART? OR ?CORONAR?

=> QUE ECHOCARDIO? OR PHONOCARDIO? OR ECHO()CARDIO? OR . . .  
L3 QUE ECHOCARDIO? OR PHONOCARDIO? OR ECHO(W)CARDIO? OR PHONO(W) . . .

=> QUE SHAPE# OR CONTOUR# OR BORDER# OR IMAG? OR EDGE# OR 4D. . .  
L4 QUE SHAPE# OR CONTOUR# OR BORDER# OR IMAG? OR EDGE# OR 4D OR 3D . . .

=> QUE SEQUENCE# OR SERIES OR TIME# OR REALTIME# OR MOTION# . . .  
L5 QUE SEQUENCE# OR SERIES OR TIME# OR REALTIME# OR MOTION# OR . . .

=> QUE S05-D03?/MC OR A61B0008/IPC,EPC OR A61B008/EPC OR 4C601/FTERM  
L6 QUE S05-D03?/MC OR A61B0008/IPC,EPC OR A61B008/EPC OR 4C601/FTERM

# Run the revised search in WPINDEX, CAPLUS, INPAFAMDB, JAPIO, KOREAPAT

```
=> FILE WPINDEX CAPLUS INPAFAMDB JAPIO KOREAPAT
```

```
=> S ((L1(S)L2) OR L3) AND L4(S)L5
```

```
L7      1301 ((L1(S) L2) OR L3) AND L4(S) L5
```

```
=> S L6 AND L2 AND L4(S)L5
```

```
L8      1493 L6 AND L2 AND L4(S)L5
```

```
=> S L7 OR L8
```

```
L9      1814 L7 OR L8
```

```
=> S L9 AND JP/PC; S L9 AND CN/PC; S L9 AND KR/PC; . . .
```

```
L10     883 L9 AND JP/PC
```

```
L11     252 L9 AND CN/PC
```

```
L12     70 L9 AND KR/PC
```

```
L13     12 L9 AND TW/PC
```

```
L14     6 L9 AND SG/PC
```

```
L15     31 L9 AND IN/PC
```

How many answers contain the Asian countries JP, CN, KR, TW, SG and IN, in the answer set L9? The sum of all of them is in L16.

```
=> S L10-L15
```

```
L16     963 (L10 OR L11 OR L12 OR L13 OR L14 OR L15)
```

# Remove duplicates (DUP REM)

```
=> S L9 AND (JP OR CN OR KR OR TW OR SG OR IN)/PC,PRC
    L17          991 S L9 AND (JP OR CN OR KR OR TW OR SG OR IN)/PC,PRC

=> DUP REM L17
L18 875 DUP REM L17 (116 DUPLICATES REMOVED)
      ANSWERS '1-499' FROM FILE WPINDEX
      ANSWERS '500-518' FROM FILE CAPLUS
      ANSWERS '519-665' FROM FILE INPAFAMDB
      ANSWERS '666-865' FROM FILE JAPIO
      ANSWERS '866-875' FROM FILE KOREAPAT
```

The vast majority of answers come from WPINDEX, but there are unique answers from all of the other files.

Be aware that the text information can be different in the databases!

# Review the answers retrieved using a free display format

=> D L18 TRI 1-25 FROM WPINDEX INPAFAMDB KOREAPAT JAPIO

```

AN    2006-145795 [15]    WPINDEX
DNN   N2006-126095 [15]
TT    TT:  ULTRASONIC TAG IMAGE SYSTEM TRACK  MYOCARDIUM WALL MOTION
        PRODUCE TISSUE UNIT MONITOR MOVEMENT THROUGH DEFORM
DC    P31; S05
IPCI  A61B0008-00 [I,A]; A61B0008-00 [I,C]; A61B0008-08 [I,A];
        A61B0008-08 [I,C]; G06K0009-00 [I,A]; G06K0009-00 [I,C]
IPCR  A61B0008-00 [I,A]; A61B0008-00 [I,C]
EPC   A61B0008-00D
MC    EPI: S05-D01C5; S05-D03
. . .
L18   ANSWER .....INPAFAMDB COPYRIGHT 2009 EPO/FIZ KA on STN
TIEN  Three-dimensional digital ultrasound tracking system.
ICM   G01S0015-00
      ; A61B0010-02      [I,A ]; A61B0005-042      [I,A ]; A61B0005-06      [I,A ];
      ; A61B0008-08      [I,A ]; A61B0008-12      [N,A ]; A61B0017-34      [N,A ];
      A61B0018-14      [N,A ]; A61B0019-00      [I,A ]; A61M0025-08      [I,A ];
....
L18   ANSWER .....KOREAPAT COPYRIGHT 2009 KIPI on STN
AN    2007:075982    KOREAPAT    ED 20071127
TI    METHOD AND ULTRASOUND SYSTEM FOR DISPLAYING ULTRASOUND IMAGE
        RELATED TO PERIODIC MOTION OF OBJECT TO ACCURATELY DIAGNOSE
        CARDIOVASCULAR DISEASES
IPCI  A61B0008-02 [I,A];
        A61B0008-02 [I,C*]

```

D TRIAL is free-of-charge review format except in CAPLUS. Use D SCAN in CAPLUS.

# Use FSORT to group the result by patent families

```
=> FSORT L18
```

```
L19          875 FSO L18

              115 Multi-record Families   Answers 1-260
                Family 1                   Answers 1-2
                Family 2                   Answers 3-4
                Family 3                   Answers 5-6
                Family 4                   Answers 7-8
                Family 5                   Answers 9-10
                . . .
                Family 115                 Answers 259-260
        615 Individual Records             Answers 261-875
          0 Non-patent Records
```

Use **DISPLAY OCC** to identify the database .

# DISPLAY OCC

=> D OCC 1-3 FROM CAPLUS

L19 ANSWER 28 OF 875 CAPLUS COPYRIGHT 2009 ACS on STN FAMILY 14

FIELD COUNT

PI 1

IPCR 4

IPCI 1

AB 7

L19 ANSWER 51 OF 875 CAPLUS COPYRIGHT 2009 ACS on STN FAMILY 23

FIELD COUNT

TI 1

PI 1

FTERM 22

IPCI 1

AB 12

L19 ANSWER 61 OF 875 CAPLUS COPYRIGHT 2009 ACS on STN FAMILY 26

FIELD COUNT

PI 1

PRAI 1

IPCR 2

FTERM 7

IPCI 1

AB 8

ST 1

IT 10

# Example 1: WPINDEX answer

```
AN 2009-E98299 [13] WPINDEX
ED 20090227
TI Ultrasonic diagnostic apparatus for treating ischemia disease, has display
unit displaying excitement propagation information that is generated by
propagation information analyzing unit by extracting local area of tissue
motion information
DC P31; S05; T01
IN ABE Y
PA (ABEY-I) ABE Y
CYC 1
PI US 20090043200 A1 20090212 (200913)* EN 17[10]
ADT US 20090043200 A1 US 2008-187673 20080807
PRAI JP 2007-209959 20070810
IPCI A61B0008-00 [I,A]; A61B0008-00 [I,C]
AB US 20090043200 A1 UPAB: 20090227
NOVELTY - The apparatus (1) has an image generating unit (21) for
generating a time-series tissue motion information image in a
period. A propagation information analyzing unit (38) generates excitement
propagation information that shows a state of space-time propagation of
mechanical excitement of the cardiac tissue by extracting a local area
of the tissue motion information using the time-series tissue
motion information image. A display unit (23) displays the excitement
propagation information, where the display unit displays the locus while
assigning different colors to time phases.
```

# Example 1: WPINDEX answer (cont.)

. . .

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) a method for processing an ultrasonic image
- (2) an ultrasonic image processing apparatus comprising a propagation information generating unit.

USE - **Ultrasonic** diagnostic apparatus for diagnosing a body tissue i.e. **cardiac** muscle, of the **heart** of a patient for objectively and quantitatively evaluating motions and functions of the body tissue for treating an ischemia disease.

ADVANTAGE - The apparatus can directly and quantitatively grasp the state of the space-time propagation of mechanical excitement of the **heart** and can three-dimensionally analyze **heart** wall motion information.

DESCRIPTION OF DRAWINGS - The drawing shows a block diagram of an ultrasonic diagnostic apparatus.

Ultrasonic diagnostic apparatus (1)

Image generating unit (21)

Display unit (23)

Motion information computing unit (37)

Propagation information analyzing unit (38)

FS GMPI; EPI

MC EPI: S05-A03C; **S05-D03**; S05-D07; T01-J06A; T01-J10C4. .

# Example 2: WPINDEX answer

```
AN 2008-E81528 [33] WPINDEX THOMSON REUTERS on STN
DNN N2008-378841 [33]
TI Three dimensional structure`s e.g. heart chamber, real-time tracking method for
three dimensional echocardiography, involves determining displacement value and
measurement vector based upon difference between contour points
DC T04
IN ORDERUD F
PA (GENE-C) GENERAL ELECTRIC CO
CYC 3
PI US 20080069436 A1 20080320 (200833)* EN 12[7]
FR 2906055 A1 20080321 (200833) FR
JP 2008068086 A 20080327 (200833) JA 18
ADT US 20080069436 A1 Provisional US 2006-845082P 20060915; US 20080069436 A1
US 2007-775903 20070711; JP 2008068086 A JP 2007-232305 20070907; FR
2906055 A1 FR 2007-57610 20070914
PRAI US 2007-775903 20070711
US 2006-845082P 20060915
IPCI A61B0008-08 [I,A]; A61B0008-08 [I,C]; A61B0008-14 [I,A];
A61B0008-14 [I,C]; G06F0017-50 [I,A]; G06F0017-50 [I,C]; G06K0009-00
[I,A]; G06K0009-00 [I,C]; G06T0001-00 [I,A]; G06T0001-00 [I,C];
G06T0015-70 [I,A]; G06T0015-70 [I,C]; G06T0007-20 [I,A]; G06T0007-20 [I,C]
AB US 20080069436 A1 UPAB: 20080523
NOVELTY - The method involves selecting a contour model to represent a three
dimensional (3D) structure being tracked. The model is deformed based upon
apredicted state vector (20). A set of actual contour points for the structure is
determined from a current image frame of a 3D image. A displacement value and a
measurement vector are determined based upon a difference between the contour
points. The value and the vector are assimilated to generate an updated state vector
and an updated covariance matrix. An updated contour model for the current frame is
generated based upon the updated state vector.
```

# Example 2: WPINDEX answer (cont.)

. . .

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a method for determining a surface of a **cardiac** chamber for a current image frame of a continuous **three dimensional (3D) ultrasound** image.

USE - Method for **real-time** tracking a three dimensional (3D) structure e.g. cardiac structure such as chamber of a **heart**, in a **three dimensional (3D) image** during three dimensional (3D) echocardiography.

ADVANTAGE - The method allows **real-time tracking** of deformable contours with nonlinear modes of deformation in volumetric datasets. The method treats the **tracking** problem as a state estimation problem, and uses an extended Kalman filter to recursively **track** deformation parameters using a combination of state predictions and measurement updates.

DESCRIPTION OF DRAWINGS - The drawing shows a graphical illustration of overall **tracking** framework decomposition.

State vector (14)

Covariance matrix (16)

Predicted state vector (20)

Predicted covariance matrix (22)

Information vector (26)

Information matrix (28)

MC EPI: T04-D

# Example 1: unique CPlus answer

AN 2006:208728 CAPLUS  
ED Entered STN: 09 Mar 2006  
TI Medical motion analytical device, medical motion method for analyzing and  
medical motion analysis program [Machine Translation].  
IN Nishiura, Masahide  
PA Toshiba Corp., Japan  
SO Japan Kokai Tokkyo Koho, 19 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE         |
|------|----------------|------|----------|-----------------|--------------|
| PI   | JP 2006061581  | A    | 20060309 | JP 2004-250465  | 20040830 <-- |
| PRAI | JP 2004-250465 |      | 20040830 | <--             |              |

## CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES  |
|---------------|-------|---|
| JP 2006061581 | IPCI  | A61B0005-11 [I,A]; A61B0005-00 [I,A]; A61B0006-03 [I,A]; <b>A61B0008-08</b> [I,A]; A61B0010-00 [I,A]; G06T0001-00 [I,A]; G06T0007-20 [I,A]; A61B0005-055 [I,A]<br>FTERM 4C038/VA04; 4C038/VB40; 4C038/VC14; 4C038/VC15; 4C093/DA02; 4C093/FF16; 4C093/FF24; 4C096/AA20; 4C096/AB50; 4C096/AC04; 4C096/AD14; 4C096/AD25; 4C096/DC11; 4C096/DC14; 4C096/DC19; 4C096/DC22; 4C096/DC28; 4C117/XB09; 4C117/XG02; 4C117/XG33; 4C117/XG34; 4C117/XJ01; 4C117/XJ05; 4C117/XJ14; 4C117/XK15; 4C117/XK18; <b>4C601/BB02; 4C601/DD15; 4C601/EE09; 4C601/JC09; 4C601/JC16; 4C601/JC37; 4C601/KK31; 4C601/LL38;</b> 5B057/AA07; 5B057/CA12; 5B057/CB12; 5B057/CH01; 5B057/DB02; 5B057/DC08; 5B057/DC16; 5B057/DC32; 5L096/BA06; 5L096/FA69; 5L096/HA04 |

# Example 1: unique CAPLUS answer (cont.)

AB [Machine Translation of Descriptors].

In diagnosis of the **heart** disease it makes the motion component of contraction of the useful **heart/extended** direction and to be able to analyze the motion component of twist and revolution etc.. As for principal component analysis section 104, the principal component analyzing the **time** serial speed vector data of the pursuit point with respect to the **contour** of the **heart** which is obtained in speed vector acquisition section 103, 1st component direction of **motion** of the pursuit point and seeking 2nd component direction, in the respective 1st **motion** component calculation section you send 105 and 2nd **motion** component calculation section 106. As for 1st motion component calculation section 105 and 2nd motion component calculation section 106, the motion component of 1st component direction of the speed vector data of the pursuit point which is obtained in the respective speed vector acquisition section 103 and the motion component of 2nd component direction is calculated. The motion component of 1st component direction of speed vector and the motion component of 2nd component direction is indicated in display part 107.

# Example 2: unique CAplus answer

```
AN 2007:1347346 CAPLUS
DN 148:26513
ED Entered STN: 27 Nov 2007
TI Method for detecting living cardiac muscle after myocardial infarction
IN Yang, Xiangjun; He, Yongming; Wu, Yiwei
PA The First Affiliated Hospital of Soochow University, Peop. Rep. China
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 13pp.
   CODEN: CNXXEV
DT Patent
LA Chinese
CC 8-9 (Radiation Biochemistry)
FAN.CNT 1
   PATENT NO.          KIND    DATE          APPLICATION NO.      DATE
   -----          -
PI  CN 101073504      A      20071121     CN 2007-10023808    20070618 <--
                                       CN 2007-10023808    20070618

CLASS
PATENT NO.          CLASS  PATENT FAMILY CLASSIFICATION CODES
-----          -
CN 101073504      IPCI   A61B0010-00 [I,A]; A61B0019-00 [I,A]
                   IPCR   A61B0010-00 [I,C]; A61B0010-00 [I,A]

AB The title method comprises the steps of: (1) directly injecting 201Tl into
a suffer via peripheral vein, (2) standing for 10-15 min, and performing
primary imaging, (3) standing for 3 h, and suggesting the suffer to eat
during the standing period, (4) performing redistribution imaging, (5)
standing for 24 h, and suggesting the suffer to defecate once during the
standing period, (6) performing delayed imaging, (7) reconstructing
201Tl single photon emission computed spectrometry (SPECT) image,
displaying, performing quality anal., and performing read anal., (8) ....
```

# Example 2: unique CAPLUS answer (cont.)

...analyzing the **movement** of ventricular wall segment via **ultrasonic cardiogram**, and (9) performing **coronary** arteriogr., analyzing blood vessel diam. stenosis rate, and performing revascularization treatment. By regulating the <sup>201</sup>Tl dosage and collection parameters, the 24 h **imaging** quality is optimized, the detection rate of living cardiac muscle is increased, and the abnormal **movement** segment is improved. The method has the advantages of simple process and no addnl. pain on sufferer.

ST myocardial infarction myocardium diagnosis thallium radioimmunoimaging  
SPECT

IT Diagnosis  
Human  
Myocardial infarction  
Myocardium  
Single-photon-emission computed tomography  
(method for detecting living cardiac muscle after myocardial infarction by SPECT)

IT Imaging  
(radioimmunoimaging; method for detecting living cardiac muscle after myocardial infarction by SPECT)

IT 15064-65-0, Thallium (201), biological studies  
RL: DGN (Diagnostic use); BIOL (Biological study); USES (Uses)  
(method for detecting living cardiac muscle after myocardial infarction by SPECT)

# Example 1: unique INPAFAMDB answer

```
AN      15269288 INPAFAMDB COPYRIGHT 2008 EPO/FIZ KA on STN
TI      Dynamic adjustment of output levels of echo signals emanating from
        functioning systems e.g. contrast medium laden heart under ultrasonic
        irradiation, seeks to minimize destruction of contrast medium.
-       Verfahren und System mit automatisiertem Leistungspegel fuer eine
        Bildgebung mit Kontrastmittel.
-       METHOD AND SYSTEM FOR AUTOMATING OUTPUT LEVEL FOR CONTRAST MEDIUM IMAGING.
-       Automated power level for contrast agent imaging.
INS     PHILLIPS PATRICK J, US; GURACAR ISMAYIL M, US; STEINS ROBERT W, US
PAS     ACUSON, US
IPCR    A61B0008-00      [I,A ] ; G01S0007-52      [I,A ] ; G03B0042-06      [I,A ] ;
        A61B0008-00      [I,C*] ; G01S0007-52      [I,C*] ; G03B0042-00      [I,C*]
EPC     G01S0007-52S2B1; G03B0042-06
AB      (US 6899681 B1)
        Automated determination and setting of an ultrasound system transmit power level
        is provided for contrast agent imaging. Low mechanical index imaging of contrast
        agents allows substantially continuous imaging of contrast agents without
        destruction. By comparing data associated with different transmit power levels,
        different delays between acquisition or different acquisition sequences , a
        contrast agent imaging transmit power generally minimizing destruction of
        contrast agents and maximizing signal-to-noise ratio is automatically determined.
PATENT FAMILY INFORMATION INPAFAMDB
+----- PUBLICATIONS -----+           +----- APPLICATIONS -----+
DE 10305843           A1 20030904           DE 2003-10305843           A 20030212
JP 2003235845           A 20030826           JP 2003-38684             A 20030217
US 6899681           B1 20050531           US 2002-77499            A 20020215
+----- PRIORITIES -----+
US 2002-77499           A 20020215
1 priority, 3 applications, 3 publications
```

# Example 2: unique INPAFAMDB answer

```

AN      37405186 INPAFAMDB EDF 20081218 EWF 200851 UPFB 20090212 UWF 200907
TI      Method for testing instantaneous speed and accelerated speed of
        dissection type M type kinetocardiogram.
INS     QIANG LIN, CN
PAS     UNIV FUZHOU, CN
IPCI    A61B0008-08      [I,A ]; A61B0008-08      [I,C*]
AB      (CN 101297763 A)
        This invention relates to a detection method for an instantaneous speed and an
        instantaneous acceleration of an anatomic M-typed kinetocardiogram, which is
        characterized by comprising an edge extracting module, a speed generating module
        and an acceleration generating module, wherein, the edge extracting module
        comprises a linear template, the invention chooses waveform of the anatomic M-
        typed kinetocardiogram of a certain part of a certain structure randomly in the
        anatomic M-typed kinetocardiogram, time discrete function differentiation is made
        for the waveform after the edge extracting is made so as to obtain the motion
        speed of every moment of the part, and then the time discrete function
        differentiation is made for the waveform again, thus obtaining the motion
        acceleration of every moment of the part (a repeating part). The invention can
        detect the motion speed and the motion acceleration of of every moment of every
        part of every heart structure accurately, thus disclosing the motion information
        of every part of the heart further in a noninvasive mode and providing important
        scientific evidences for the study of the diagnosis of the heart disease and the
        hemodynamics.
PATENT FAMILY INFORMATION INPAFAMDB
+----- Publications -----+           +----- Applications -----+
CN 101297763           A   20081105       CN 2008-10070915           A   20080418
+----- Priorities -----+
CN 2008-10070915           A   20080418
  1 priority, 1 application, 1 publication

```

# Example: unique JAPIO answer

AN 1995-328007 JAPIO  
TI IMAGE DISPLAYING METHOD FOR ULTRASONIC DIAGNOSTIC DEVICE  
IN ISHIHARA KEN; KISHIMOTO SHINJI  
PA ISHIHARA KEN  
HITACHI MEDICAL CORP  
PI JP 07328007 A 19951219 Heisei  
AI JP 1994-146978 (JP06146978 Heisei) 19940607  
PRAI JP 1994-146978 19940607  
SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Volume 1995  
IC ICM **A61B0008-14**  
AB PURPOSE: To prevent the visual field from being narrowed even when a frame rate is high by reading a **tomographic image** in a wide visual field in the same **time** phase as the **tomographic image**, synthesizing it as the **image** outside the area of interest, and generating and displaying the **image** in a wide visual field as a whole when the image of the area of interest is reproduced.  
CONSTITUTION: When the data of an **ultrasonic image** are collected in a cine memory, this **ultrasonic** diagnostic device collects a **tomographic image** I in a wide visual field E for the all area of the prescribed visual field in the period of one heartbeat or above in some time phase at the **time** of the observation start of the diagnostic portion of an examinee, records the **cardiac time** phase information at that time, sets the area of interest of the narrow visual field E' including the portion 12 requiring high- speed photographing for the diagnostic portion, switches the mode to the high-frame mode at the time of the observation of the diagnostic portion thereafter, and collects the **tomographic image** I' of the area of interest in a narrow visual field E'. When the image I' of the area of interest is reproduced, the **tomographic image** I in the wide visual area E in the same **time phase** as the **tomographic image** the area of interest is read out, the **tomographic image** I is synthesized as the **image** outside the area of interest, and the **image** of the wid visual field E is generated and displayed as a whole.  
COPYRIGHT: (C)1995,JPO

# Example: unique KOREAPAT answer

```
AN 2007:003090 KOREAPAT ED 20070521
TI METHOD AND ULTRASOUND DIAGNOSTIC SYSTEM FOR FORMING 3D ULTRASOUND IMAGES
USING 2D ULTRASOUND IMAGES, CAPABLE OF FORMING 3D ULTRASOUND IMAGES BY
USING 2D ULTRASOUND IMAGES OBTAINED THROUGH 1D OR 2D PROBE
TL English
IN HYUN, DONG GYU
PA MEDISON CO., LTD.
PIT KRA Unexamined Patent Application
PI KR 2007000561 A 20070103
AI KR 2005-56002 20050628
PRAI KR 2005-56002 * 20050628
IPCI A61B0008-00 [I,A];
A61B0008-00 [I,C*]
AB PURPOSE: A method and an ultrasound diagnostic system for forming 3D
ultrasound images using 2D ultrasound images are provided to be
applied to measure movements of a cardiac wall, a valve, and an
artery wall, and the amount of bloodstream.
CONSTITUTION: A method for forming 3D ultrasound images using 2D
ultrasound images includes the steps of: obtaining a plurality of 2D
ultrasound images based on an ultrasound echo signal(S120); setting an
ROI(Region Of Interest) box at the plurality of 2D ultrasound
images(S130); extracting the images corresponding to the ROI box region
from the plurality of 2D ultrasound images(S140); and obtaining 3D
ultrasound images by overlapping the extracted images sequentially(S150).
.COPYRGT. KIPO 2007
```

# Titles and abstract information can be different in the databases!

=> D KR2008057858 /PN

=> D TI 1-4

L20 ANSWER 1 OF 4 WPINDEX COPYRIGHT 2009 THOMSON REUTERS on STN  
 TI Fetal monitor for monitoring birth rate of e.g. deformed child, has measurement unit utilized as assembly of ultrasound sensors and positioned onto abdomen of pregnant woman, and fetal movement route formed on abdomen of pregnant woman

L20 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2009 ACS on STN  
 TI Device and method for monitoring fetus

L20 ANSWER 3 OF 4 INPAFAMDB COPYRIGHT 2009 EPO/FIZ KA on STN  
 TI FETAL MONITORING DEVICE AND METHOD.

L20 ANSWER 4 OF 4 KOREAPAT COPYRIGHT 2009 KIPI on STN  
 TI DEVICE AND A METHOD FOR MONITORING FETUS, CAPABLE OF DETECTING FETAL MOVEMENT BY SUPPLYING A BINDER-SHAPED INPUT UNIT WITHOUT TRACING THE FETUS  
 TL English

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