Effective Utilization of Japanese Patent Classifications on Search and Examination

December 2013

JAPAN PATENT OFFICE
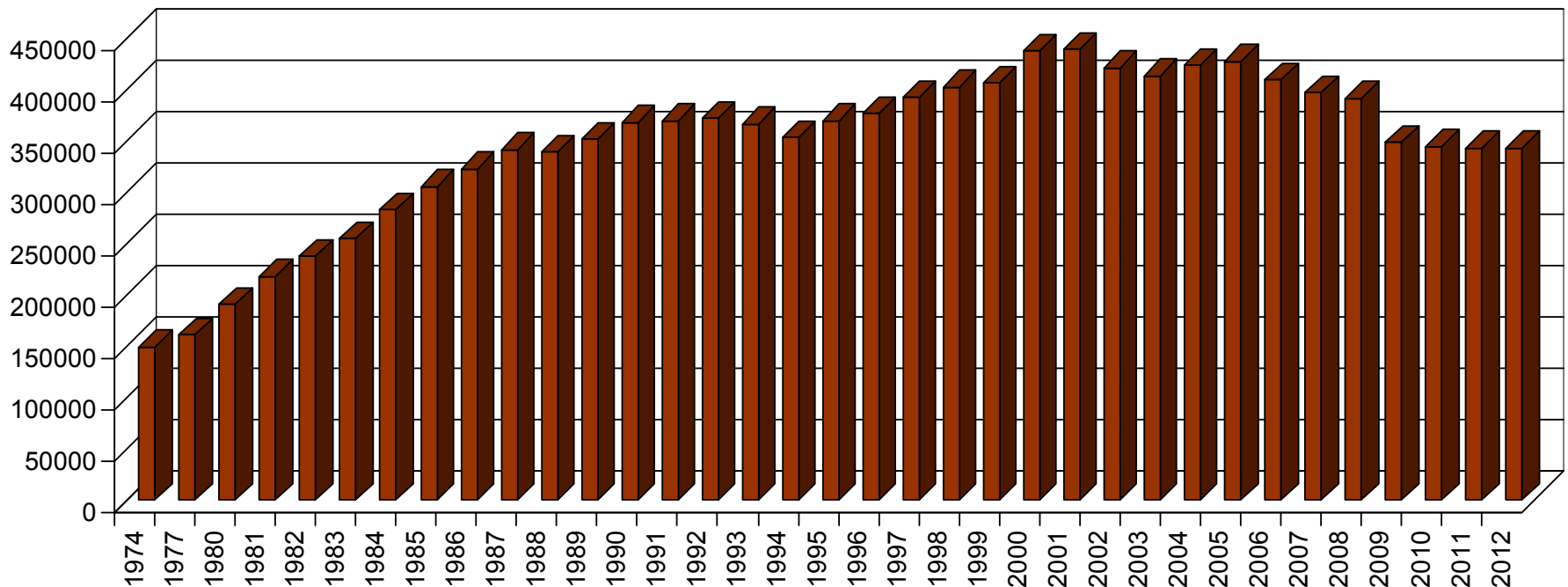
■ FI/F-term

■ Advantage of FI/F-term search

➢ Identifying relevant FI/F-term

➢ Searching with FI/F-term via IPDL

➢ Search query with FI/F-term on EPOQUE

➢ Example technical fields where FI is effective
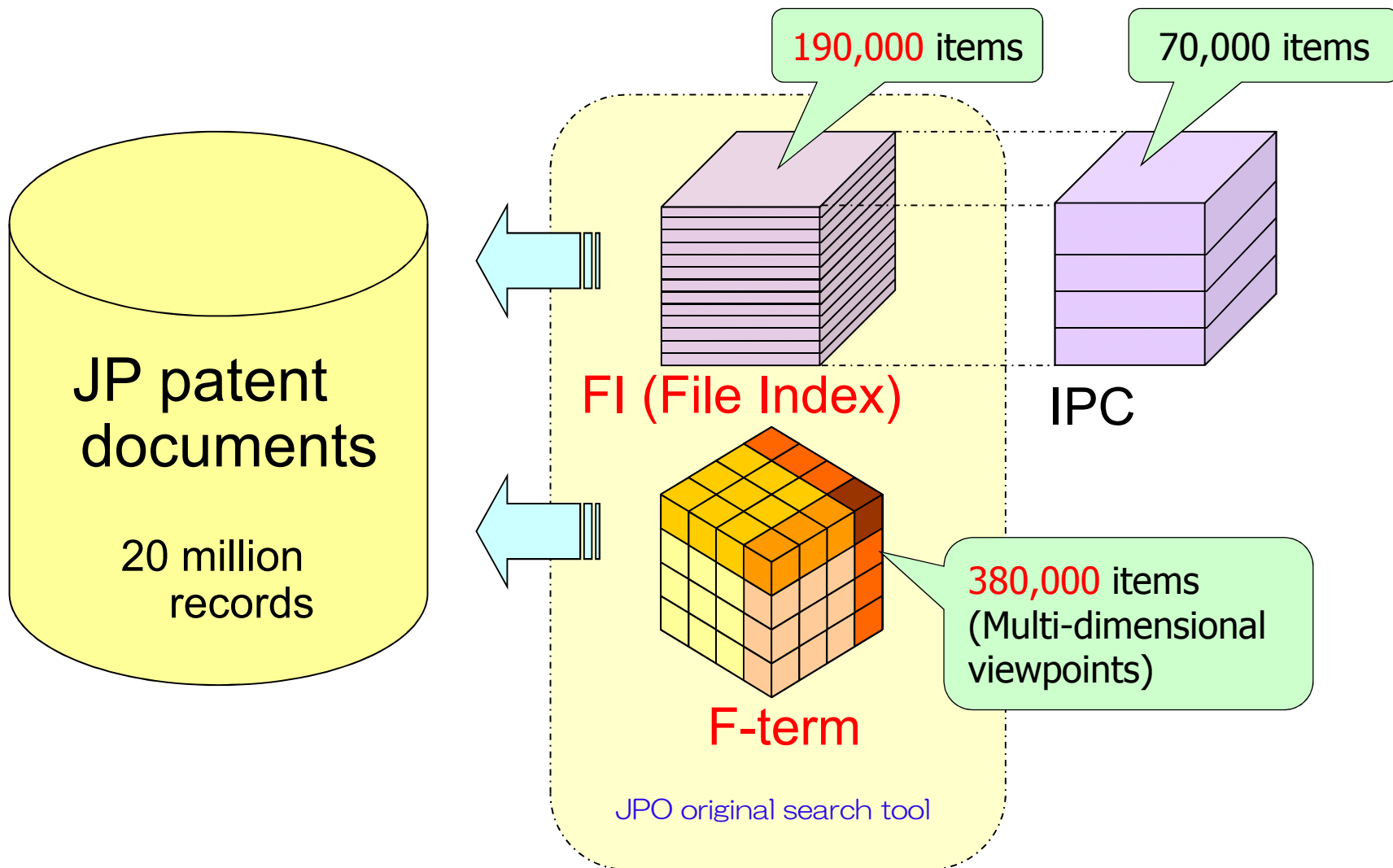
■ Summary

JP Patent Documents

- ❑ Annually about 350,000 patent applications in Japan (not including PCT applications)
- ❑ Totally about 20,000,000 documents
- ❑ About 75% of domestic applications have **no** patent families

- ❑ Huge amount of prior art docs. only in Japanese!

Search index (IPC, FI, F-term)

	Search with search index	Text search
Pros	1. No language barrier 2. Low noise, low search omission 3. Old JP docs covered 4. Effective to search for structure and shape	1. Simple 2. The latest technical term 3. Distinctive word (e.g., iPS cells) 4. Applicant name, Inventor name
Cons	1. Understanding of classification system 2. Not fully prepared for the latest technology	1. Noise and search omission 2. Unable for old JP docs. 3. Unsuitable to search for structure and shape 4. Thesaurus

Current status of FI/F-term

JP patent documents

20 million records

FI (File Index)

190,000 items

IPC

70,000 items

F-term

380,000 items (Multi-dimensional viewpoints)

JPO original search tool

Current status of FI/F-term

	IPC	FI	F-term
Total number of items	70,000	190,000	380,000
Coverage of patent documents	More than 100 countries	Japanese patent documents	Japanese patent documents
Coverage of technical fields	All	All	Approx. 70%

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  ➢ Searching with FI/F-term via IPDL

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  ➢ Example technical fields where FI is effective
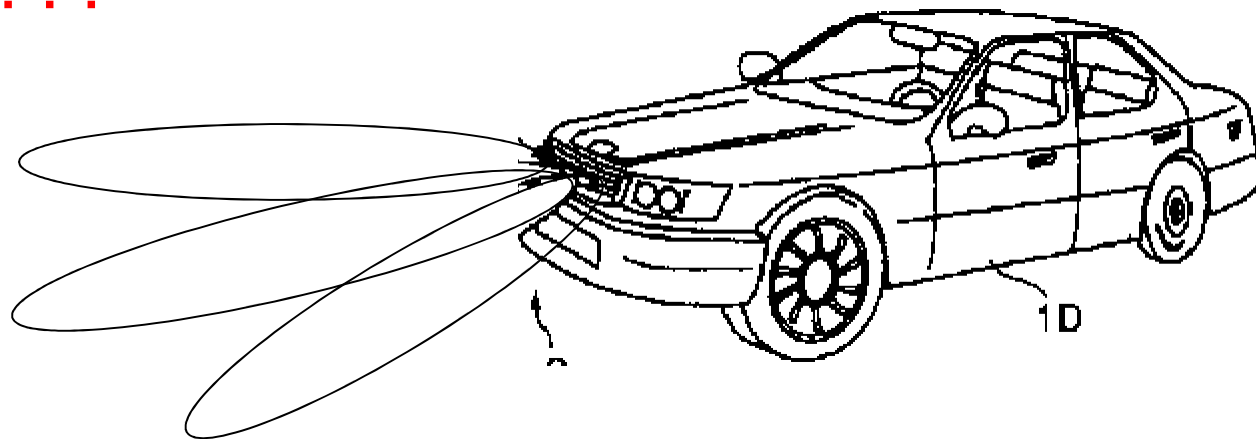
■ Summary

Identifying relevant FI/F-terms

[Example]

Automobile collision avoidance radar with fixed antenna when curving

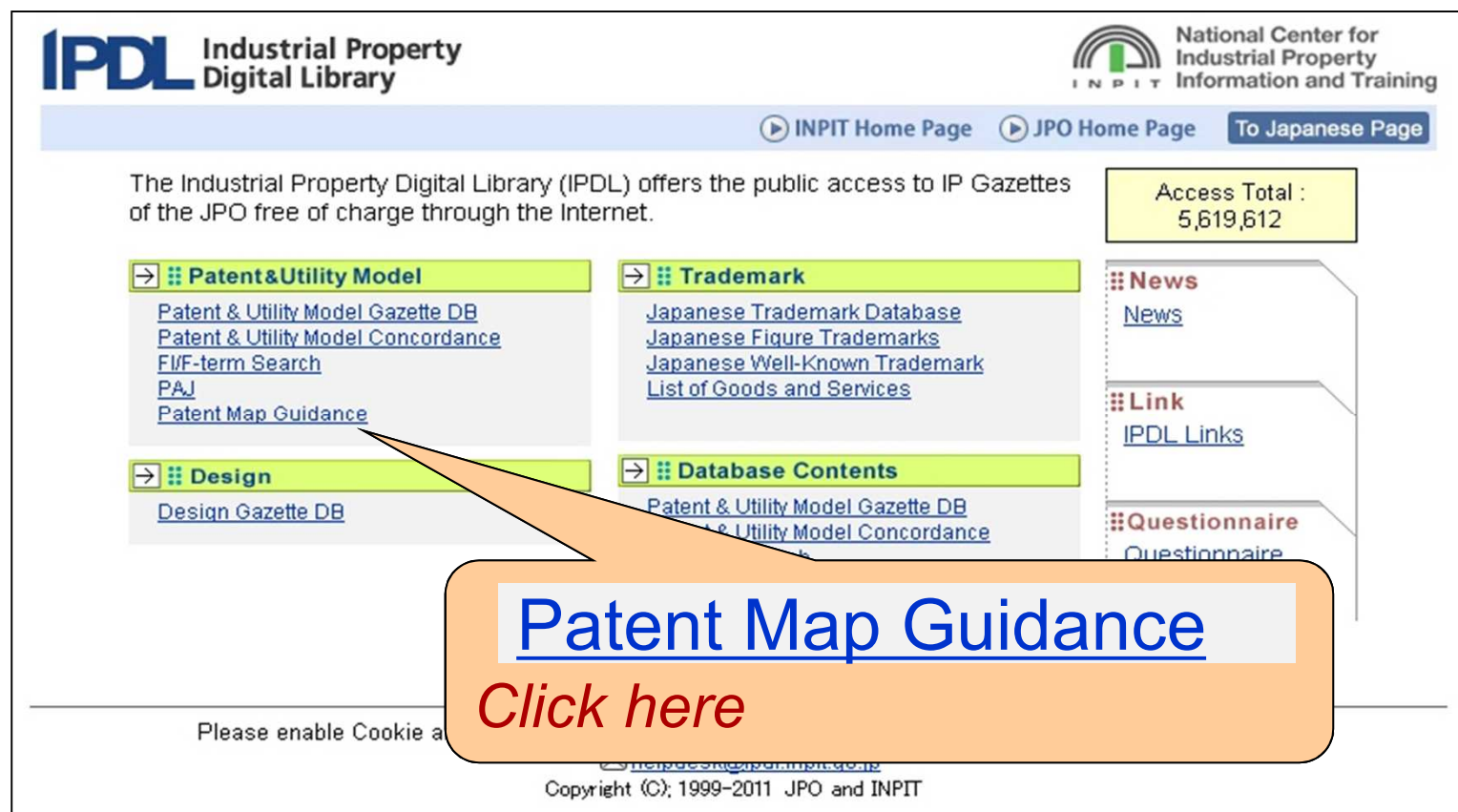**IPC:** G01S 13/93   Radar or analogous systems, designed for anti-collision purposes

FI:
Theme: ???
F-term :

8

IPDL (Industrial Property Digital Library)

URL: **http://www.ipdl.inpit.go.jp/homepg_e.ipdl**

Patent Map Guidance

Click here

Patent Map Guidance

G01S13/93:

Radar or analogous systems, designed for anti-collision purposes

Identifying relevant FI/F-terms

G01S13/93 of IPC has 3 FI subdivisions

MENU HELP

＊＊FI (List Indication) ＊＊

This screen shows all FIs contained in the main group "G01S13/00".

Click on a subgroup after you select Indication Type.
Refer to HELP for the details of the Indication Type.

Indication Type ◉ List   ◯ Target   ◯ The same hierarchy

- 13/89 . . for mapping or imaging [3]   5J070
- 13/90 . . . using synthetic aperture   5J070
- 13/91 . . for traffic control (G01S 1   5J070
        P For aircraft e.g. methods   5J070
        S For boats e.g. navigating   5J070
        Z Others   5J070
- 13/92 . . . for velocity measurement [3]   5J070
- 13/93 . . for anti-collision purposes [3]   5J070
        P For aircraft   5J070
        S For boats   5J070
        Z Others   5J070
- 13/94 . . for terrain-avoidance [3]   5J070
- 13/95 . . for meteorological use [3]   5J070

The relevant FI:
G01S13/93@Z

The relevant F-term theme code: 5J070

12

Advantage of FI/F-term search

Theme: 5J070 (Radar systems and details thereof)
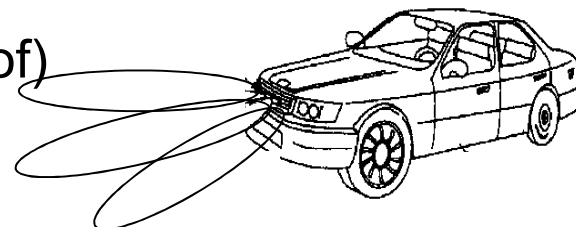
F-term: AD00   Antennas and polarized waves
       ∟AD13   . Fixed Antenna
   BF00   Collision prevention
      ∟BF19   . Curved roadway

Subject of theme

Theme Code

5J070	Radar systems and details thereof										
	G01S7/00−7/42;13/00−13/95										
AA	AA00 RADAR SYSTEMS IN GENERAL	…	…				…	…	…	…	
. . .											
AD	AD00 ANTENNAS AND POLARIZED WAVES	…	…	…	…	…	AD13 . Fixed Antenna	…	…	…	…
. . .											
BF	BF00 COLLISION PREVENTION	…	…	…	…	…	…	…	BF19 . Curved roadway	…	…

FI Coverage

View-points

13

Advantage of FI/F-term search

JPO JAPAN PATENT OFFICE

[Example]

Automobile collision avoidance radar with fixed antenna when curving

G01S 13/93@Z   AD13   BF19
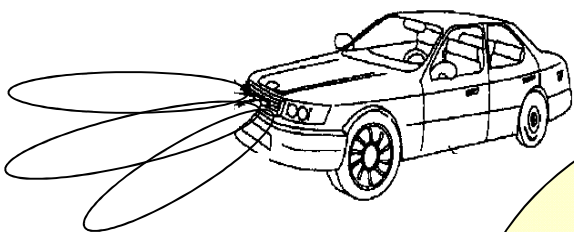
G01S 13/93@Z Anti-collision systems for automobile

BF19 Curved roadway

AD13 Fixed Antenna

- ■ FI/F-term

- ■ Advantage of FI/F-term search
  - ➢ Identifying relevant FI/F-term
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  - ➢ Search query with FI/F-term on EPOQUE
  - ➢ Example technical fields where FI is effective

- ■ Summary

IPDL (Industrial Property Digital Library)

URL: **http://www.ipdl.inpit.go.jp/homepg_e.ipdl**

FI/F-term search via IPDL

FI/F-term Search

[MENU] [NEWS] [HELP]

Patent

Data Type
This choice can be omitted. (When you have no check, all Data Types are chosen.)
☑ Patent ☐ Examined utility model registration ☐ Patent specification ☐ Examined utility model specification

Theme --- e.g. 2C001
Enter a F-term Theme in the box below.

Theme: 5J070

5J070

Publication Date --- e.g. 20010101-20031231
You can specify a range of Publication Date to narrow your search.
This choice can be omitted.

From: [   ] – To: [   ]

Publication Date

FI/F-term/facet --- e.g. AA01+[A63F9/22-ZAA]
Enter the query into the box below, up to 500 letters (essential requirement for searching)
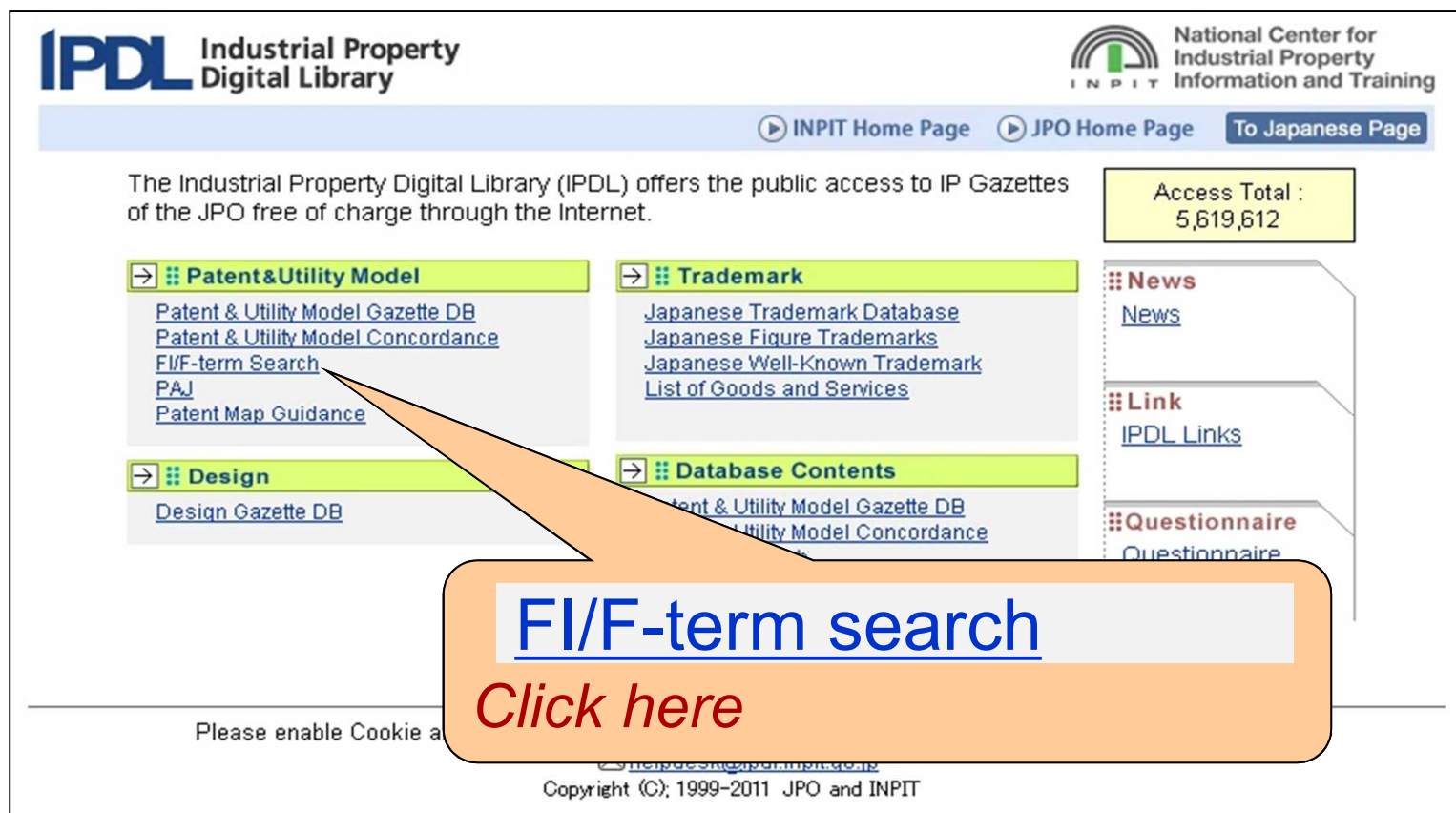Boolean operators : "+" means 'OR', "*" means 'AND', "-" means 'NOT'.

G01S13/93@Z*AD13*BF19

G01S13/93@Z*AD13*BF19

Display Type
[All Pages ▾]

Priority of search result display
Check the kind of document, which you want to indicate the Search Result (|
⦿ unexamined applications ◯ examined applications
Hit list can be displayed when the search results are within 500.

Boolean Operators:
+ (OR)
* (AND)
- (NOT)

Search Results 25

[Search] [List]

Click on "List"

[Clear]

Details are on
«http://www.ipdl.inpit.go.jp/HELP/tokujitu/fterm_en/1_1frame.html»

FI/F-term search via IPDL

6. JP,07-110900,A(1995)
7. JP,07-072245,A(1995)
8. JP,06-131596,A(1994)
9. JP,06-109836,A(1994)
10. JP,06-083446,A(1994)
11. JP,05-087923,A(1993)
12. JP,04-344487,A(1992)
13. JP,03-111785,A(1991)
14. JP,02-227689,A(1990)
15. JP,02-140682,A(1990)
16. JP,62-130500,A(1987)
17. JP,62-019781,A(1987)
18. JP,61-278775,A(1986)
19. JP,61-162776,A(1986)
20. JP,61-145474,A(1986)
21. JP,61-091581,A(1986)
22. JP,61-023985,A(1986)
23. JP,58-081840,A(1983)
24. JP,55-138670,A(1980)
25. JP,53-020789,A(1978)

BACK **NEXT**

DETAIL **JAPANESE** **LEGAL STATUS**

(11)Publication number : 07-072245
(43)Date of publication of application : 17.03.1995

(51)Int.Cl.   G01S 13/93

B60R 21/00

(21)Application number : 05-220108   (71)Applicant : TOYOTA AUTOM LOOM WORKS LTD
(22)Date of filing : 03.09.1993   (72)Inventor : SUZUKI ISAO
                                                  YOKOTA KAZUNORI
                                                  OGAMI SHINGO

(54)CAR-MOUNTED COLLISION-PREVENTION WARNING DEVICE

(57)Abstract:
PURPOSE: To generate a warning at the relative distance matching the driver's sensation.
CONSTITUTION: An antenna part 1 is provided with a transmitting part 2 for transmitting electromagnetic waves and a receiving parts 3 for receiving the electromagnetic waves reflected from forward obstacles. The received signal is outputted into a signal processing part 4. In the signal processing part 4, a relative distance R to a preceding vehicle and a relative speed Vr between own vehicle and the preceding vehicle are operated on the basis of the input signals. The results are outputted into an MCU 10. A vehicle speed sensor 6 ...eed V1 and outputs the speed into the MCU 10. A ROM ...dimensional map, the deceleration in response to the ...d the relative distance R and the free running time are
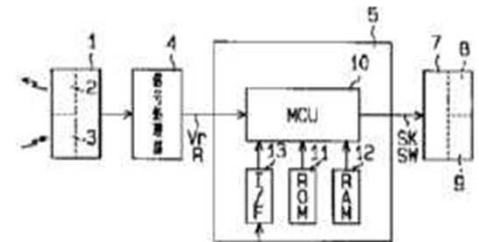
result list of publication numbers

http://www4.ipdl.inpit.go.jp/Tokujitu/tjftermenb.ipdl   18

FI/F-term search via IPDL

［Search query］

G01S13/93@Z and ~~AD13~~ and BF19

FI   *F-term*
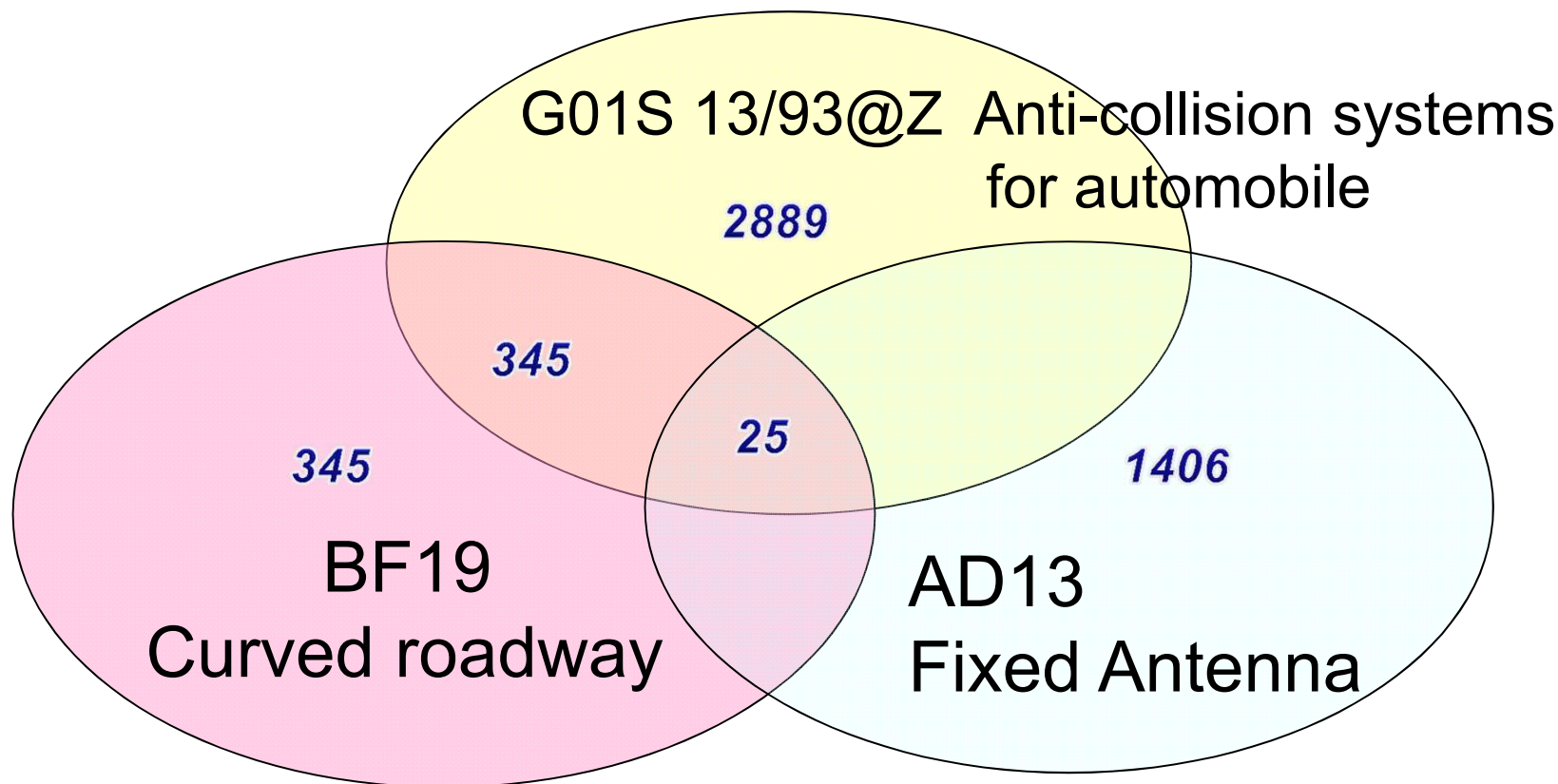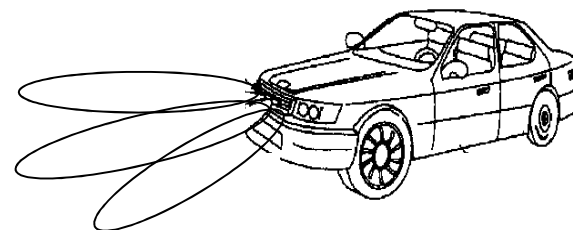
G01S 13/93@Z Anti-collision systems
for automobile

2889

345

25

345

1406

BF19
Curved roadway

AD13
Fixed Antenna

20

- **FI/F-term**
- **Advantage of FI/F-term search**
  - ➤ Identifying relevant FI/F-term
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  - ➤ Search query with FI/F-term on EPOQUE
  - ➤ Example technical fields where FI is effective
- **Summary**

FI on EPOQUE

Unlimited right hand truncation (e.g. /FI A47G9/10&A+) is not effective to cover lower concepts.

```
A47G9/10&A  ..  Pillows
A47G9/10&B  ...  Filled member
A47G9/10&C  ....  utilizing a natural resource
A47G9/10&D  .....  Stones, magnets
```

Examples of Search Queries with FI

```
?  /FI A47G9/10&A/LOW
?  /FI A47G9/10&A:A47G9/10&D
?  /FI A47G9/10&[A-D]
```

FI on EPOQUE

Unlimited right hand truncation (e.g. /FI A47G9/10&A+) is not effective to cover lower concepts.

```
G06K9/20&310C . Structures of optical systems
G06K9/20&310D .. Filters
G06K9/20&310E .. Optical fibres
```

Examples of Search Queries with FI

```
?   /FI G06K9/20&310C/LOW
?   /FI G06K9/20&310C:G06K9/20&310E
?   /FI G06K9/20&310[C-E]
```

F-term on EPOQUE

Unlimited right hand truncation (e.g. /FT 3B115/BA04+) is not effective to cover lower concepts.

```
3B115/BA04   .   Utensils for grasping food
                    (e.g., finger sacks)
3B115/BA05   ..   Tongs for ice and lump sugar
3B115/BA06   ..   Chopsticks (i.e., separate elements)
3B115/BA07   ...   Splitable chopsticks
                    (i.e., connected or one piece)
```

**Examples of Search Queries with F-term
(/LOW does not work for F-term codes.)**

```
?   /FT 3B115/BA04:3B115/BA07
?   /FT 3B115/BA0[4-7]
```

- **FI/F-term**
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- **Summary**

FI(22)-CPC(10)

F21V23/00

Device Layout   Circuit Layout
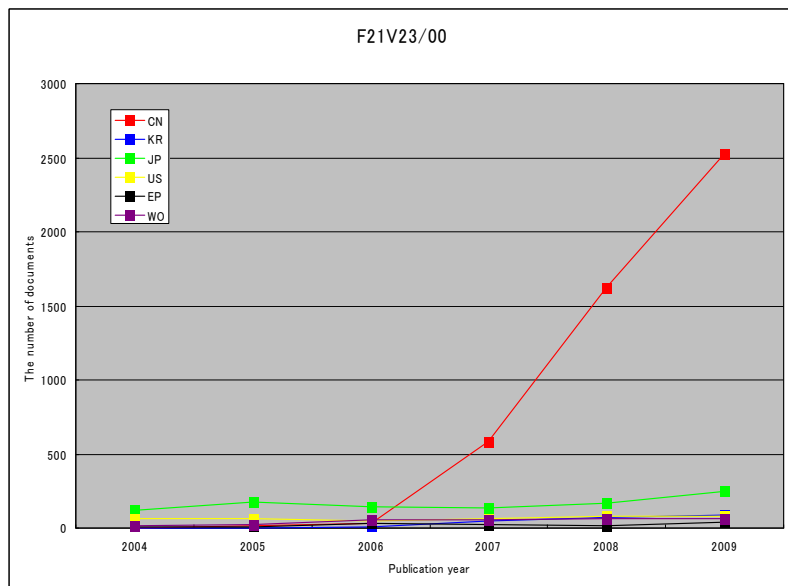
FI			CPC	
F21V 23/00		Arrangement of electric circuit elements in or on lighting devices	F21V23/00	Arrangements of electric circuit elements in or on lighting devices (electric circuits per se H05B39/00)
F21V 23/00 100	·	Electric circuit elements for discharge lamps	F21V23/001	· { the elements being electrical wires or cables}
F21V 23/00 101	··	Arrangement of discharge lamp circuits	F21V23/002	·· { Arrangements of cables or conductors inside a lighting device, e.g. means for guiding along parts of the housing or in a pivoting arm}
F21V 23/00 102	···	Startup circuits, igniters	F21V23/003	· { the elements being electronics drivers or controllers for operating the light source, e.g. for a LED array}
F21V 23/00 103	···	Power circuits, inverters	F21V23/004	·· { arranged on a substrate, e.g. a printed circuit board}
F21V 23/00 105	··	Glow lamps	F21V23/005	··· { the substrate is supporting also the light source}
F21V 23/00 107	··	Close conductors	F21V23/006	··· { the substrate being distinct from the light source holder}
F21V 23/00 110	·	Detection means	F21V23/007	·· { enclosed in a casing}
F21V 23/00 111	··	Disconnection or excess current detection means	F21V23/008	··· { the casing being outside the housing of the lighting device}
F21V 23/00 113	··	Photodetecting means	F21V23/009	··· { the casing being inside the housing of the lighting device}
F21V 23/00 114	···	using photoconductors		
F21V 23/00 115	··	Human body detection means		
F21V 23/00 117	··	Temperature detection means		
F21V 23/00 120	·	Power supply compartments, power supplies		
F21V 23/00 130	·	Noise prevention members, grounding, shields		
F21V 23/00 140	·	Control devices [CPU], dimming devices		
F21V 23/00 150	·	Arrangement of circuit boards or power distribution blocks [assembly of elements]		
F21V 23/00 160	·	Power supply elements [wirings, codes, electric pathes]		
F21V 23/00 170	·	Terminal boards		
F21V 23/00 180	·	Magnets for controlling light emission of lamps		
F21V 23/00 190	·	having elements on lamp base parts		
F21V 23/00 200	·	characterised by layout of elements [e.g, to achieve size reduction]		

H01L23/34 (Semiconductor Arrangements)

FI(7)-CPC(2)

H01L23/34

Chart title: H01L23/34

Y-axis: The number of documents
X-axis: Publication year

Legend: CN, KR, JP, US, EP, WO
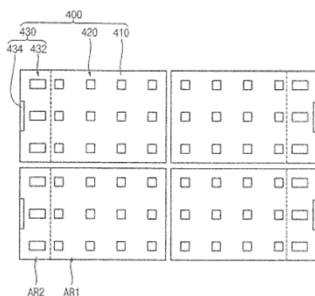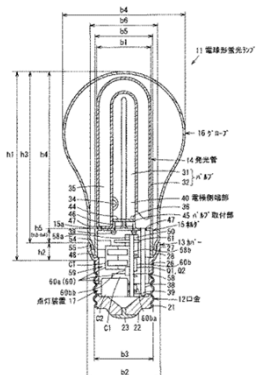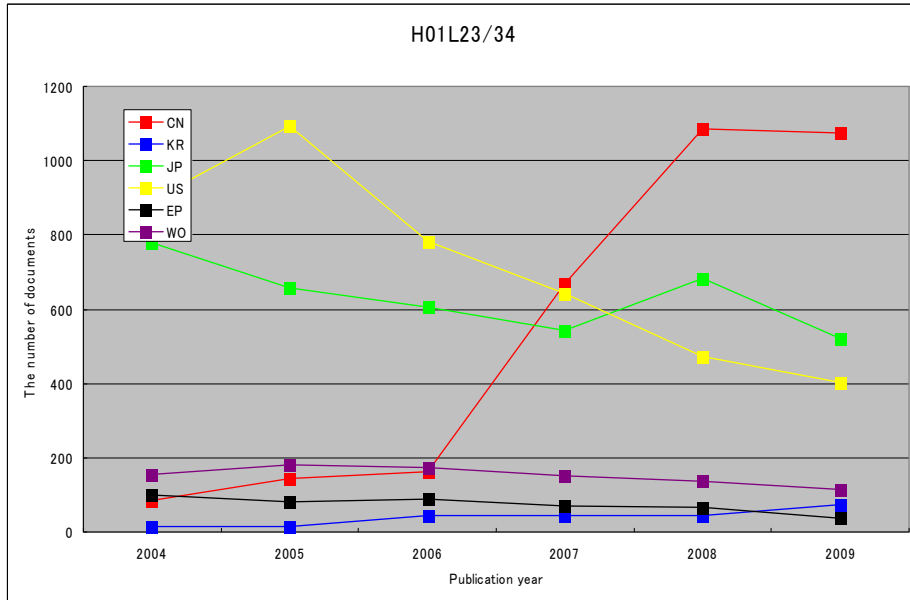
	FI		CPC	
H01L 23/34	·	Cooling arrangements; Heating arrangements; Ventilating arrangements [2]	H01L23/34	· Arrangements for cooling, heating, ventilating or temperature compensation; { Temperature sensing arrangements (thermal treatment
H01L 23/34 A		Semiconductor elements, vessels, and leads	H01L23/345	·· { Arrangements for heating (thermal treatment apparatus
H01L 23/34 B		Resin seal-type		
H01L 23/34 C		Pressure-type		
H01L 23/34 D		having heat-sensitive elements		
H01L 23/34 E		thermostatic oven		
H01L 23/34 Z		Others		
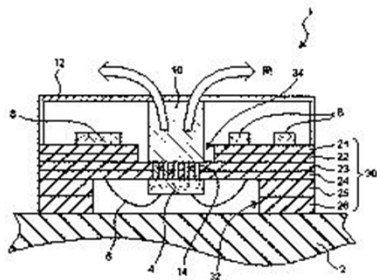
Semiconductor with High Radiation Performance

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H04N7/18 (Monitoring Systems)

FI(23)-CPC(6)

H04N7/18
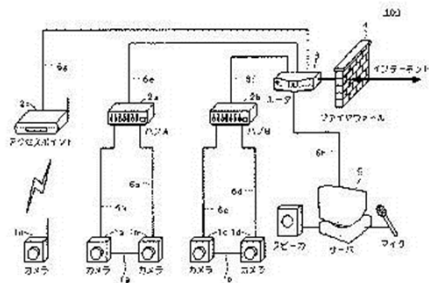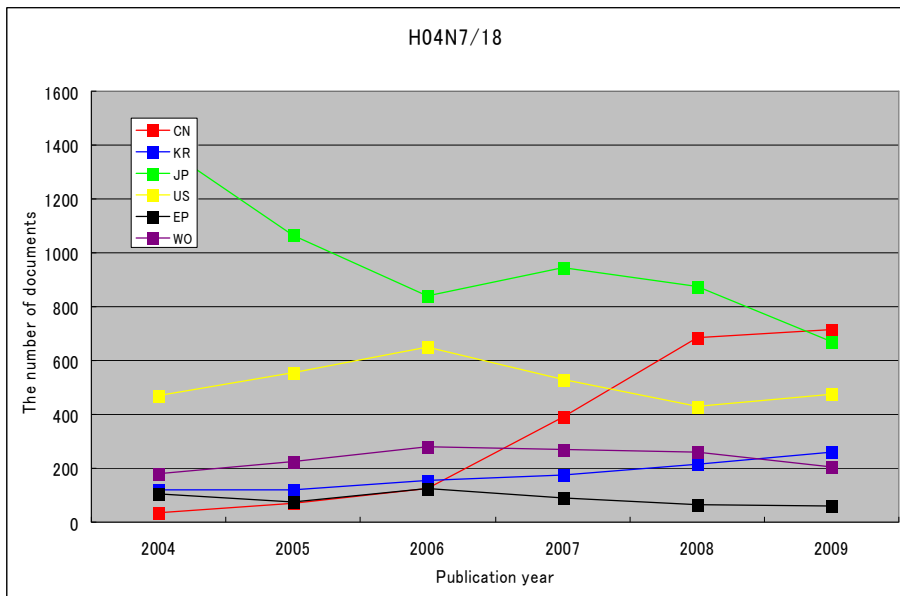
Security Camera System

	FI		CPC
H04N 7/18	・ Closed-circuit television systems, i.e. systems in which the signal is not broadcast	H04N7/18	・ Closed circuit television systems, i.e. systems in which the signal is not broadcast{(television transmission of measured quantities G01D5/39 ;intruder alarm or detection by television surveillance G08B13/196 ,G08B15/00B)}
H04N 7/18 A	Transmission system of signal	H04N7/181	・・ {for receiving images from a plurality of remote sources}
H04N 7/18 B	Systems with a wide variety of inspections	H04N7/183	・・ {for receiving images from a single remote source}
H04N 7/18 C	Systems with a wide variety of measurements	H04N7/185	・・・ {from a mobile camera, e.g. for remote control}
H04N 7/18 D	Monitoring systems	H04N7/186	・・・ {Video door telephones}
H04N 7/18 H	・ Monitoring of visitors [e.g. television intercoms]	H04N7/188	・・ {Capturing isolated or intermittent image triggered by the occurrence of a predetermined event, e.g.an object reaching a predetermined position(signal generation from motion picture films H04N5/253)}
H04N 7/18 J	・ Monitoring of rear direction of vehicles; monitoring of peripheral dead zones of vehicles		
H04N 7/18 E	Television cameras for monitoring and the control thereof [television cameras for monitoring, H04N5/225]		
H04N 7/18 F	・ Switching controls for plural television cameras		
H04N 7/18 G	Automatic tracking of bodies		
H04N 7/18 K	Disassembly and processing of images		
H04N 7/18 W	・ Making images binary		
H04N 7/18 L	X-ray television systems		
H04N 7/18 M	Endoscope systems		
H04N 7/18 N	Infrared image pickups systems		
H04N 7/18 Q	Ultrasonic image pickup systems		
H04N 7/18 P	Television games		
H04N 7/18 R	Learning and practice machines		
H04N 7/18 S	Pattern analysis and pattern production systems		
H04N 7/18 T	Arrival order determination systems		
H04N 7/18 U	Image display and recording systems		
H04N 7/18 V	・ Systems for composite displays of plural images		
H04N 7/18 Z	Others		

G06F3/023 (Coding Inputs from Keyboards)

FI(32)-CPC(9)

G06F3/023
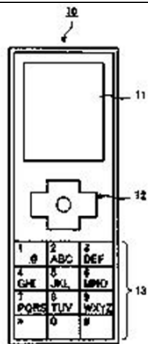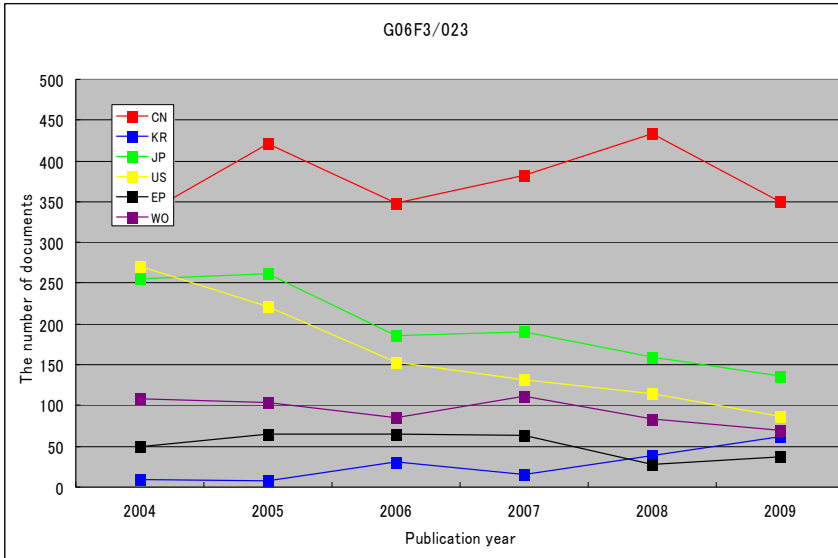
Character Encoding for Mobile Phones

FI			CPC	
G06F 3/023	···	Arrangements for converting discrete items of information into a coded form, e.g. arrangements for interpreting keyboard generated codes as alphanumeric codes, operand codes or instruction codes (coding in connection with keyboards or like devices in general H03M 11/00) [8]	G06F3/023	··· Arrangements for converting discrete items of information into a coded form, e.g. arrangements for interpreting keyboard generated codes as alphanumeric codes, operand codes or instruction codes (coding in connection with keyboards or like devices in general H03M11/00)]
G06F 3/023 310	····	Coded keyboards	G06F3/0231	···· { Cordless keyboards }
G06F 3/023 310 A		Coding in general	G06F3/0232	···· { Manual direct entries, e.g. key to main memory }
G06F 3/023 310 B		Using analog	G06F3/0233	···· { Character input methods }
G06F 3/023 310 C		Using commands	G06F3/0234	····· { using switches operable in different directions }
G06F 3/023 310 D		By scanning	G06F3/0235	····· { using chord techniques (G06F3/0234 takes precedence) }
G06F 3/023 310 E		· Scanning using display signals	G06F3/0236	····· { using selection techniques to select from displayed items }
G06F 3/023 310 F		Using structures	G06F3/0237	····· { using prediction or retrieval techniques }
G06F 3/023 310 G		Generating plurality of characters	G06F3/0238	···· { Programmable keyboards (key guide holders G06F3/0224) }
G06F 3/023 310 H		· Can be registered		
G06F 3/023 310 J		Pressing time		
G06F 3/023 310 K		Key combinations		
G06F 3/023 310 L		Display selection inputs		
G06F 3/023 310 Z		Others		
G06F 3/023 320	·····	Coding by switching input modes		
G06F 3/023 320 A		Shift		
G06F 3/023 320 B		Shift display		
G06F 3/023 320 C		· Indicators on top of keys		
G06F 3/023 320 D		· Keys mounted on indicators		
G06F 3/023 320 Z		Others		
G06F 3/023 330	·····	Inputting plurality of items		
G06F 3/023 330 A		Selecting types		
G06F 3/023 330 B		Replacing sheets		
G06F 3/023 330 C		Book types		
G06F 3/023 330 D		Slide types		
G06F 3/023 330 E		Rolling types		
G06F 3/023 330 F		Page sheet types		
G06F 3/023 330 Z		Others		
G06F 3/023 340	····	Coding other than keyboards		
G06F 3/023 340 A		Japanese typewriters		
G06F 3/023 340 B		Setting		
G06F 3/023 340 Z		Others		

B09B3/00 (Biochemical Treatment of Waste)

JPO JAPAN PATENT OFFICE

FI(60)-CPC(12)

B09B3/00

	FI		CPC
B09B 3/00	Destroying solid waste or transforming solid waste into something useful or harmless [3]	B09B 3/00	Destroying solid waste or transforming solid waste (or contaminated solids) into something useful or harmless
B09B 3/00 A	Biochemical treatment of waste	B09B3/0008	· { comprising an adsorption step (separating processes involving the treatment of liquids with solid sorbents B01D15/00; separation of gases or vapors by adsorption B01D53/02)}
B09B 3/00 C	· Anaerobiotic treatment	B09B3/0016	· { comprising an extraction step (separation by solvent extraction B01D11/00)}
B09B 3/00 D	· Treatment of kitchen refuse, kitchen waste, in particular	B09B3/0025	· {Agglomeration, binding or encapsulation of solid waste (solidification of sludge C02F11/008; waste materials as compounding ingredients in polymers C08K11/005)}
B09B 3/00 Z	Others	B09B3/0033	· · {using an organic binder or matrix}
B09B 3/00 301	· Treatment by solidifying, granulating (involving volume decrease)	B09B3/0041	· · {using a mineral binder or matrix, e.g. to obtain a soil like material (C04B takes precedence); Apparatus therefor}
B09B 3/00 301 A	Treatment of refuse (kitchen refuse, kitchen waste)	B09B3/005	· · · {involving a melting step}
B09B 3/00 301 B	· Characterized by devices	B09B3/0058	· {Removing gases or liquids enclosed in discarded articles, e.g. aerosol cans, cooling systems of refrigerators (arrangements for charging or discharging refrigerant from refrigerators F25B45/00); Removing gases from discarded plastic foam products}
B09B 3/00 301 C	· Characterized by treating agents	B09B3/0066	· {Disposal of asbestos}
B09B 3/00 301 E	Waste earth and sand (stone)	B09B3/005	· {Disposal of medical waste (casings for used articles, e.g. sharps A61B19/0288; sterilisation of refuse A61L11/00; disposal of used needles or syringes A61M5/3205; disintegrating medical waste B02C19/12M)}
B09B 3/00 301 F	Residuum (metal)	B09B3/0083	· { by means of a thermal treatment, e.g. evaporation (treatment of waste by pyrolysis or by combustion F23G5/00)}
B09B 3/00 301 G	Waste tires, rubber	B09B3/0091	· · { Steam treatment}

B09B 3/00 304	· Chemical treatment
B09B 3/00 304 A	Slag
B09B 3/00 304 C	· from iron treatment
B09B 3/00 304 D	· from nonferrous treatment
B09B 3/00 304 G	Ash, dust
B09B 3/00 304 H	Waste materials
B09B 3/00 304 J	Metal, inorganic (← asbestos)
B09B 3/00 304 L	Waste catalysts (also involving ion exchange resin, adsorbents)
B09B 3/00 304 M	Liquefaction
B09B 3/00 304 N	Waste tires, rubber
B09B 3/00 304 P	Waste plastic (macromolecular compounds)
B09B 3/00 304 Z	Others (organic matters) (PCB R A62D3/)

Biochemical Treatment of Waste

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The Number of Documents (y-axis: 0 to 1600)

Legend: CN, JP, KR, EP, US

Publication Year (x-axis: 2008, 2009, 2010)
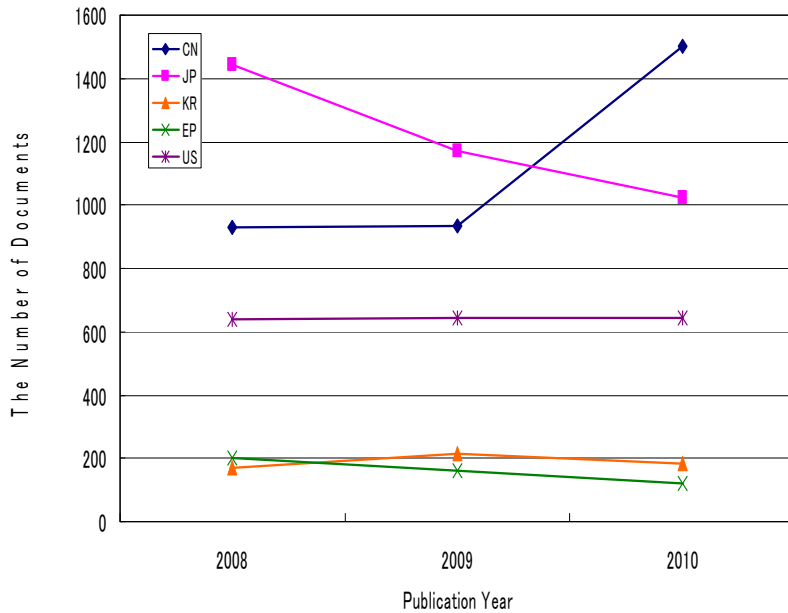
Ion beam mixing apparatus

$P < 10^{-1}$ Torr

Ionic state

Acceleration of cathode heating ion

Gas inlet, e.g.. argon gas

	FI			CPC		
C23C14/00	Coating by vacuum evaporation, by sputtering or by ion implantation of the coating forming material (discharge tubes with provision for introducing objects or material to be exposed to the discharge H01J 37/00) [4]			C23C14/00	Coating by vacuum evaporation, by sputtering or by ion implantation of the coating forming material (discharge tubes with provision for introducing objects or material to be exposed to the discharge H01J37/00)	
C23C14/00@A	·	Making foils, powders		C23C14/0005	·	[Separation of the coating from the substrate]
C23C14/00@B	·	Cleaning of devices, prevention of contamination (including cleaning, contamination preventing methods)		C23C14/001	·	[Coating on a liquid substrate]
C23C14/00@C	·	Vacuum treatment		C23C14/0015	·	[characterized by the colour of the layer]
C23C14/00@D	·	Magnetic materials		C23C14/0021	·	[Reactive sputtering or
C23C14/00@Z	·	Other PVD		C23C14/0026	· ·	[Activation or excitation of reactive gases outside the coating chamber]
C23C14/24	· ·	Vacuum evaporation [4]		C23C14/24	· ·	Vacuum evaporation
C23C14/24@A	· · ·	Evaporation source container unit (material quality, structure, inner coating)		C23C14/243	· · ·	[Crucibles for source material (C23C14/28, C23C14/30 take precedence)]
C23C14/24@B	· · ·	Heating, cooling of evaporation source container		C23C14/246	· · ·	[Replenishment of source material]
C23C14/24@C	· · ·	Number of evaporation source containers, movement of position				
C23C14/24@D	· · ·	Supply, replenishment of evaporation source materials				
C23C14/24@E	· · ·	Evaporation source materials per				
C23C14/24@F	· · ·	Evaporation by electric arc discharge, arc discharge				
C23C14/24@G	· · ·	Vacuum evaporation (shutter,				
C23C14/24@H	· · ·	Substrate units for formation of vacuum evaporation coat				
C23C14/24@J	· · ·	Retention and movement of substrates for formation of vacuum evaporation coat				
C23C14/24@K	· · ·	Heating and cooling of substrates for formation of vacuum evaporation coat				
C23C14/24@L	· · ·	Heating and cooling in vacuum evaporation (excluding heating, cooling of substrates)				
C23C14/24@M	· · ·	Air supply and discharge in vacuum evaporation, gas composition				
C23C14/24@N	· · ·	Vacuum evaporation (with designated film				
C23C14/24@P	· · ·	Vacuum evaporation (magnetism, magnet)				
C23C14/24@Q	· · ·	Vacuum evaporation (superconducting film)				
C23C14/24@R	· · ·	Vacuum evaporation method (with limited values)				
C23C14/24@S	· · ·	Vacuum evaporation method (with no limited values)				
C23C14/24@T	· · ·	Vacuum evaporation devices not classified above				
C23C14/24@U	· · ·	Control, detection of vacuum evaporation				
C23C14/24@V	· · ·	Continuous treatment of vacuum evaporation				
C23C14/24@Z	· · ·	Others				
C23C14/34	· ·	Sputtering [4]		C23C14/34	· ·	Sputtering
C23C14/34@A	· · ·	Material quality of target (including combined targets)		C23C14/3407	· · ·	[Cathode assembly for sputtering apparatus, e.g. Target]
C23C14/34@B	· · ·	Shape of target		C23C14/3414	· · · ·	[Metallurgical or chemical aspects of target preparation, e.g. casting, powder metallurgy]
C23C14/34@C	· · ·	Installation of target (including peripherals, multiple targets)		C23C14/3421	· · · ·	[using heated targets]
C23C14/34@D	· · ·	Facing target type sputtering		C23C14/3428	· · · ·	[using liquid targets]
C23C14/34@E	· · ·	Coaxial sputtering		C23C14/3435	· · ·	[Applying energy to the substrate during sputtering]
C23C14/34@F	· · ·	Sputter guns		C23C14/3442	· · · ·	[using an ion beam]
C23C14/34@G	· · ·	Shutters		C23C14/345	· · · ·	[using substrate bias]
C23C14/34@H	· · ·	Substrate units for formation of sputtering coat		C23C14/3457	· · ·	[using other particles than noble gas ions (C23C14/0036, C23C14/46 take precedence)]
C23C14/34@J	· · ·	Retention and movement of substrates for formation of sputtering coat		C23C14/3464	· · ·	[using more than one target (C23C14/56 takes precedence)]
C23C14/34@K	· · ·	Heating and cooling of substrates for formation of sputtering coat		C23C14/3471	· · ·	[Introduction of auxiliary energy into the plasma]
C23C14/34@L	· · ·	Heating and cooling in sputtering (excluding heating, cooling of substrates)		C23C14/3478	· · · ·	[using electrons, e.g. triode sputtering]
C23C14/34@M	· · ·	Air supply and discharge in sputtering, gas composition		C23C14/3485	· · ·	[using pulsed power to the target]
C23C14/34@N	· · ·	Sputtering (with designated film		C23C14/3492	· · ·	[Variation of parameters during sputtering]
C23C14/34@P	· · ·	Sputtering (magnetism, magnet)				
C23C14/34@Q	· · ·	Sputtering (superconducting film)				
C23C14/34@R	· · ·	Sputtering method (with limited values)				
C23C14/34@S	· · ·	Sputtering method (with no limited values)				
C23C14/34@T	· · ·	Sputtering devices not classified above				
C23C14/34@U	· · ·	Control, detection of sputtering				
C23C14/34@V	· · ·	Continuous treatment of sputtering				
C23C14/34@Z	· · ·	Others				
C23C14/58	·	After-treatment [4]		C23C14/58	·	After-treatment
C23C14/58@A	· ·	Heat treatment (C takes precedence)		C23C14/5806	· ·	[Thermal treatment]
C23C14/58@B	· ·	Accompanied by formation of new coating on PVD coating		C23C14/5813	· · ·	[using lasers]
C23C14/58@C	· ·	Energy beam irradiation		C23C14/582	· · ·	[using electron bombardment]
C23C14/58@D	· ·	After-treatment of magnetic		C23C14/5826	· ·	[Plasma treatment]
C23C14/58@Z	· ·	Other after-treatment		C23C14/5833	· · ·	[Ion beam bombardment]
				C23C14/584	· ·	[Non-reactive treatment]
				C23C14/5846	· ·	[Reactive treatment]
				C23C14/5853	· · ·	[Oxidation]
				C23C14/586	· · ·	[Nitriding]
				C23C14/5866	· · ·	[Treatment with sulfur, selenium or tellurium]
				C23C14/5873	· ·	[Removal of material]
				C23C14/588	· · ·	[by mechanical treatment]
				C23C14/5886	· ·	[Mechanical treatment (involving removal of material 14/58,J2)]
				C23C14/5893	· ·	[Mixing of deposited material]

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- **FI/F-term**

- **Advantage of FI/F-term search**
  - ➤ Identifying relevant FI/F-term
  - ➤ Searching with FI/F-term via IPDL
  - ➤ Search query with FI/F-term on EPOQUE
  - ➤ Example technical fields where FI is effective

- **Summary**

■ FI/F-term information

> ➤ Finding Relevant FI/F-term

PMGS: http://www5.ipdl.inpit.go.jp/pmgs1/pmgs1/pmgs_E

> ➤ Searching with FI/F-term

IPDL: http://www.ipdl.inpit.go.jp/homepg_e.ipdl

- HT Abstract, MT Full-text, Figure

■ FI/F-term

> ➤ not a perfect solution, but a dominant tool to access documents (in particular at specific fields)

> ➤ Examiners select the best way from the candidates, IPC, FI, F-term, CPC and Full-text search…….

Thank you !

December 2013

JAPAN PATENT OFFICE