



Patent classification

Overview and considerations

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Overview

- What are advantages and disadvantages of patent classification?
- How is the IPC structured?
- How can I find relevant IPC symbols?
- How can I view the IPC scheme?
- What challenges might I face when using patent classification?

Advantages of classification vs. keywords

- Terminology and jargon independent (including changes in terms used over time)
- Language independent

→ A more complete and precise search

Advantages of patent classification vs. keywords

- Applied in a standardized manner to patent documents
- Available for patent documents published (nearly) anywhere in the world
- Available for (old) patent documents for which little or no searchable text is available
- Specially adapted for patent documentation

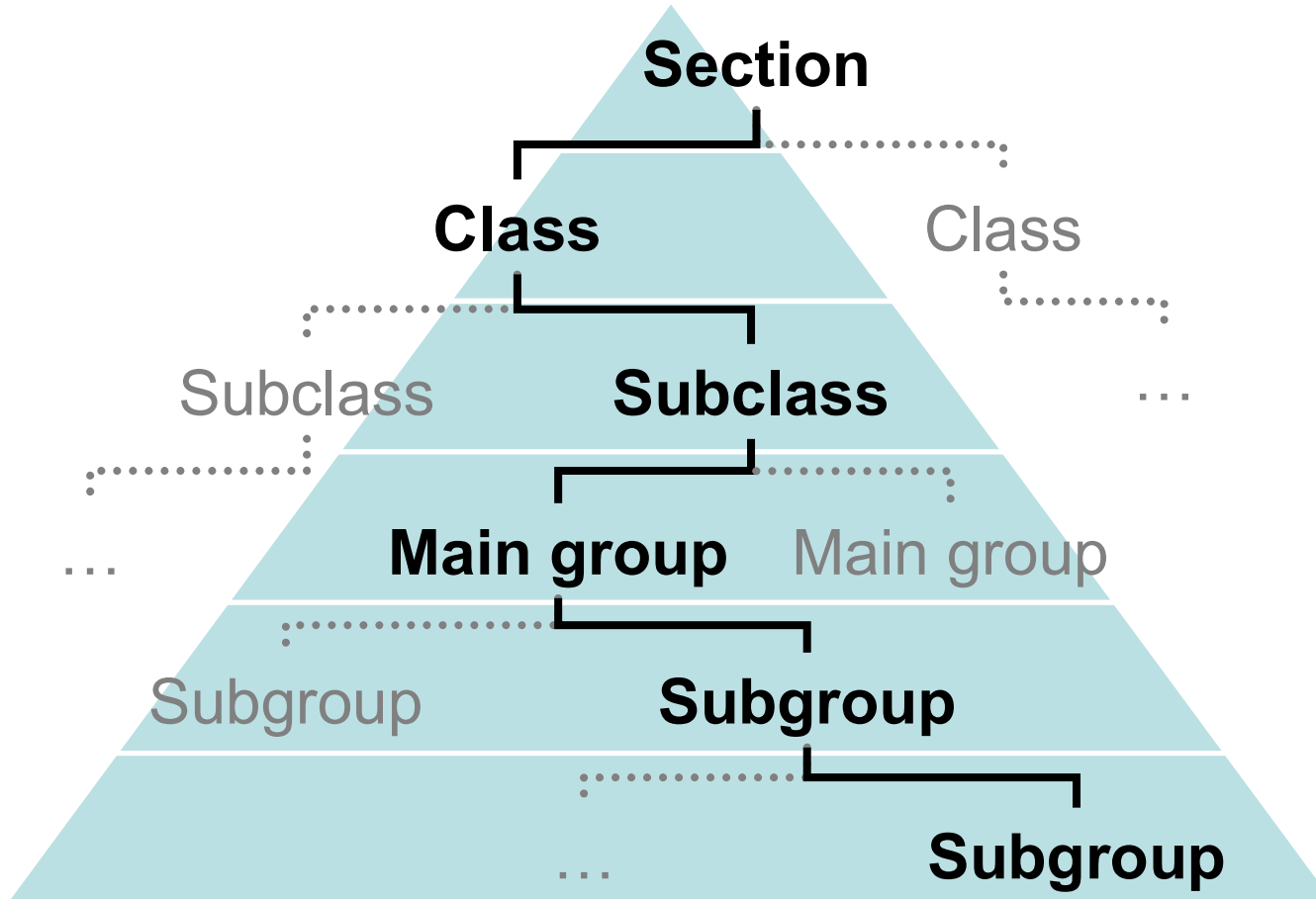
Disadvantages of patent classification vs. keywords

- May not be available for all areas of technology
- May not be specific enough for a particular search
- May not be available for all documents
- Potentially complex

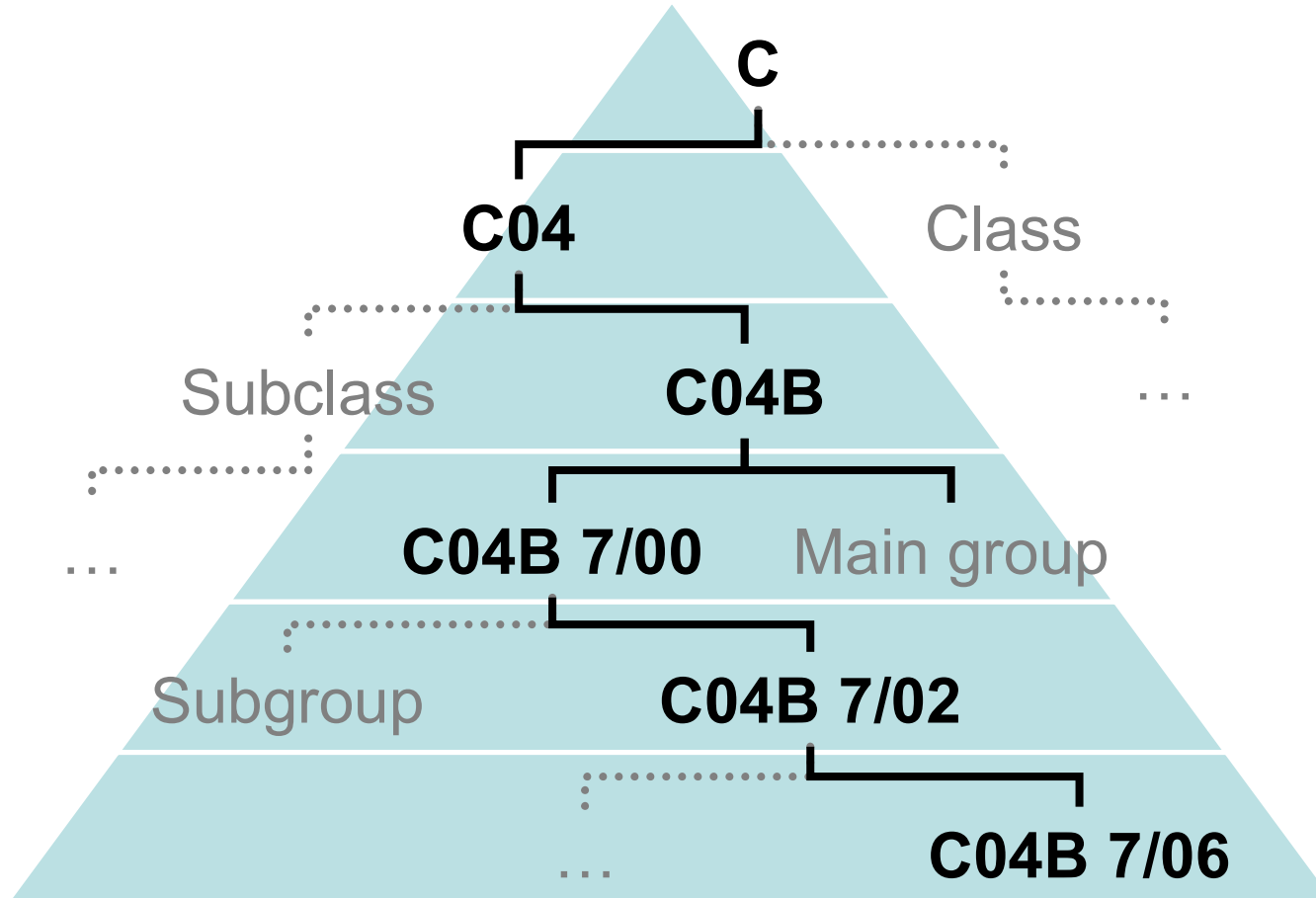
IPC: Structure

- Hierarchical
 - Section
 - Class
 - Subclass
 - Main group
 - Subgroup

IPC: Structure



IPC: Structure



IPC: Structure

- C → Chemistry
- C04 → Cements; concrete; artificial stone; ceramics; refractories
- C04B → Lime; magnesia; slag; cements; compositions thereof...; artificial stone; ceramics; refractories; treatment of natural stone
- C04B 7/00 → Hydraulic cements
- C04B 7/02 → Portland cement
- C04B 7/06 → using alkaline raw materials

IPC: Structure (subgroups)

C04B 7/00	Hydraulic cements [2006.01]
C04B 7/02	• Portland cement [2006.01]
C04B 7/04	• • using raw materials containing gypsum [2006.01]
C04B 7/06	• • using alkaline raw materials [2006.01]
C04B 7/12	• Natural pozzuolanas; Natural pozzuolana cements [2006.01]
C04B 7/13	• • Mixtures thereof with inorganic cementitious materials, e.g. Portland cements [2006.01]
C04B 7/14	• Cements containing slag [2006.01]
C04B 7/147	• • Metallurgical slag [2006.01]
C04B 7/153	• • • Mixtures thereof with other inorganic cementitious materials or other activators [2006.01]
C04B 7/17	• • • • with calcium oxide containing activators [2006.01]
C04B 7/19	• • • • • Portland cements [2006.01]
C04B 7/21	• • • • with calcium sulfate containing activators [2006.01]
C04B 7/22	• Iron ore cements [2006.01]
C04B 7/24	• Cements from oil shales, residues or waste other than slag [2006.01]
C04B 7/26	• • from raw materials containing flue dust [2006.01]
C04B 7/28	• • from combustion residues (C04B 7/26 takes precedence) [2006.01]

→ More dots = lower hierarchical level

IPC: Structure (subgroups)

C04B 7/00	Hydraulic cements [2006.01]
C04B 7/02	• Portland cement [2006.01]
C04B 7/04	• • using raw materials containing gypsum [2006.01]
C04B 7/06	• • using alkaline raw materials [2006.01]
C04B 7/12	• Natural pozzuolanas; Natural pozzuolana cements [2006.01]
C04B 7/13	• • Mixtures thereof with inorganic cementitious materials, e.g. Portland cements [2006.01]
C04B 7/14	• Cements containing slag [2006.01]
C04B 7/147	• • Metallurgical slag [2006.01]
C04B 7/153	• • • Mixtures thereof with other inorganic cementitious materials or other activators [2006.01]
C04B 7/17	• • • • with calcium oxide containing activators [2006.01]
C04B 7/17	• • • • • Portland cements [2006.01]
C04B 7/20	• • • • • with calcium sulfate containing activators [2006.01]
C04B 7/22	• Iron ore cements [2006.01]
C04B 7/24	• Cements from oil shales, residues or waste other than slag [2006.01]
C04B 7/26	• • from raw materials containing flue dust [2006.01]
C04B 7/28	• • from combustion residues (C04B 7/26 takes precedence) [2006.01]

IPC: Structure (subgroups)

C04B 7/00	Hydraulic cements [2006.01]
C04B 7/02	• Portland cement [2006.01]
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C04B 7/14	• Cements containing slag [2006.01]
C04B 7/147	• • Metallurgical slag [2006.01]
C04B 7/153	• • • Mixtures thereof with other inorganic cementitious materials or other activators [2006.01]
C04B 7/17	• • • • with calcium oxide containing activators [2006.01]
C04B 7/19	• • • • • Portland cements [2006.01]
C04B 7/21	• • • • • with calcium sulfate containing activators [2006.01]
C04B 7/22	• Iron ore cements [2006.01]
C04B 7/24	• Cements from oil shales, residues or waste other than slag [2006.01]
C04B 7/26	• • from raw materials containing flue dust [2006.01]
C04B 7/28	• • from combustion residues (C04B 7/26 takes precedence) [2006.01]

IPC: Structure (notes and references)

C04B	LIME; MAGNESIA; SLAG; CEMENTS; COMPOSITIONS THEREOF e.g. MORTARS, CONCRETE OR LIKE BUILDING MATERIALS; ARTIFICIAL STONE; CERAMICS (devitrified glass-ceramics C03C 10/00); REFRACTORIES (alloys based on refractory metals C22C); TREATMENT OF NATURAL STONE [4]
	Note(s) [6] In this subclass, the following terms or expressions are used with the meanings indicated: <ul style="list-style-type: none">• "fillers" includes pigments, aggregates and fibrous reinforcing materials;• "active ingredients" includes processing aids or property improvers, e.g. grinding aids used after the burning process or used in the absence of a burning process;• "mortars", "concrete" and "artificial stone" are to be considered as a single group of materials, and therefore, in the absence of an indication to be contrary, they include mortar, concrete and other cementitious compositions.
	<u>Lime; Magnesia; Slag</u>
C04B 2/00	Lime, magnesia or dolomite [2006.01]
C04B 2/02	• Lime [2006.01]
C04B 2/04	• • Slaking [2006.01]
C04B 2/06	• • • with addition of substances, e.g. hydrophobic agent [2006.01]
C04B 2/08	• • • Devices therefor [2006.01]
C04B 2/10	• Preheating, burning, calcining or cooling (decarbonation during burning of cement raw materials C04B 7/43) [2006.01]
C04B 2/12	• • in shaft or vertical furnaces [2006.01]

→ Relevant symbols, definitions, versions

Indexing

Classification	Independent
Indexing	Complementary (associated with classification in specific subdivisions)

Indexing

Classification	Spot arc welding
Indexing	(Articles made by soldering, welding or cutting) Railway- or like rails

Scenario

- You have been requested to retrieve patent documents related to semiconductor lasers and have decided to use IPC classification for this purpose.

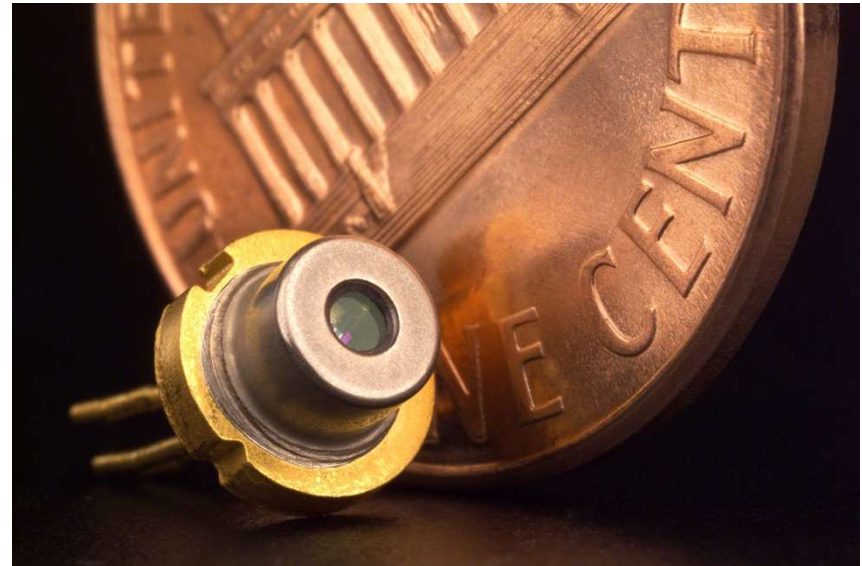


Photo source: NASA

IPC Official Publication

The screenshot shows the WIPO website's navigation and search interface. At the top, the WIPO logo and name are displayed. Below it, a navigation bar includes links for Home, Knowledge, International Classifications, International Patent Classification, and IPC Publication. A search bar on the left contains the placeholder text "An IPC Symbol or terms" and includes icons for search, refresh, grid, and share. Below the search bar, there are options for "Results" (eye icon), a version dropdown menu set to "2018.01", a language selection area with "None" selected, and a "PDF" button. At the bottom left, there are radio buttons for "English version" (selected), "French version", "English/French", and "Path view". The main content area features a "Scheme" tab and a list of IPC classes from A to H, each with a plus icon and a description: A: HUMAN NECESSITIES; B: PERFORMING OPERATIONS; TRANSPORTING; C: CHEMISTRY; METALLURGY; D: TEXTILES; PAPER; E: FIXED CONSTRUCTIONS; F: MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING; G: PHYSICS; H: ELECTRICITY.

Class	Description
A	HUMAN NECESSITIES
B	PERFORMING OPERATIONS; TRANSPORTING
C	CHEMISTRY; METALLURGY
D	TEXTILES; PAPER
E	FIXED CONSTRUCTIONS
F	MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING
G	PHYSICS
H	ELECTRICITY

<http://www.wipo.int/ipcpub>

Search

- Catchwords
- Definitions
- Scheme
- STATS

Exercise

- Use the search tools to identify relevant IPC symbols 

IPC Official Publication

The screenshot shows the WIPO IPC Official Publication website. The search bar contains the text "semiconductor laser", which is highlighted with a red box. Below the search bar, there are several icons for search, refresh, grid, and share. The main content area displays a list of IPC classes, each with a plus sign icon, a letter, and a description. The classes are:

- A** HUMAN NECESSITIES
- B** PERFORMING OPERATIONS; TRANSPORTING
- C** CHEMISTRY; METALLURGY
- D** TEXTILES; PAPER
- E** FIXED CONSTRUCTIONS
- F** MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING
- G** PHYSICS
- H** ELECTRICITY

The left sidebar contains navigation options, including a "Results" section, a "Version" dropdown set to "2018.01", a "None" button, a "PDF" button, and radio buttons for "English version", "French version", "English/French", and "Path view".

IPC Official Publication

WIPO
WORLD INTELLECTUAL PROPERTY ORGANIZATION

Home Knowledge International Classifications International Patent Classification IPC Publication

semiconductor laser

Scheme RCL Compilation Catchwords ?

Results

2018.01 Version

None

PDF

English version
 French version
 English/French
 Path view

+	A	HUMAN NECESSITIES
+	B	PERFORMING OPERATIONS; TRANSPORTING
+	C	CHEMISTRY; METALLURGY
+	D	TEXTILES; PAPER
+	E	FIXED CONSTRUCTIONS
+	F	MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING
+	G	PHYSICS
+	H	ELECTRICITY

<http://www.wipo.int/ipcpub>

IPC Search

The screenshot shows the WIPO IPC Search interface. At the top, the WIPO logo and navigation tabs are visible. The search bar contains the text "semiconductor laser". Below the search bar, there are several icons for search actions. A red box highlights the "Advanced Search" checkbox, which is currently unchecked. Below this, there are options for "Terms search:" including "Stemming", "Limit to", "Exclude", "Path", "Scheme titles", "Scheme references", "Catchwords", and "Definitions".

The main content area displays a list of IPC classes with their corresponding descriptions:

Class	Description
A	HUMAN NECESSITIES
B	PERFORMING OPERATIONS; TRANSPORTING
C	CHEMISTRY; METALLURGY
D	TEXTILES; PAPER
E	FIXED CONSTRUCTIONS
F	MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING
G	PHYSICS
H	ELECTRICITY

IPC Advanced Search

The screenshot displays the IPC Advanced Search interface. On the left, there is a search control panel with a 'Search' button and a 'Reset' button. Below these are icons for a search filter, a gear for settings, and a 'Results' label. A checkbox for 'Advanced Search' is checked. There are also icons for a text input, a refresh symbol, a pie chart, and a star. The 'Terms search:' section includes a checked checkbox for 'Stemming', two input fields both containing 'A01N,A01I' (one labeled 'Limit to' and one 'Exclude'), a checked checkbox for 'Path' with a warning icon, and checked checkboxes for 'Scheme titles', 'Scheme references', 'Catchwords', and 'Definitions'. A red rounded rectangle highlights the 'Stemming', 'Limit to', 'Exclude', 'Path', 'Scheme titles', 'Scheme references', 'Catchwords', and 'Definitions' options.

Search Reset

Results

Advanced Search

T ↻ 📊 ★

Terms search:

Stemming

A01N,A01I Limit to

A01N,A01I Exclude

Path ⚠

Scheme titles

Scheme references

Catchwords

Definitions

→ +	A	HUMAN NECESSITIES
→ +	B	PERFORMING OPERATIONS; TRANSPORTING
→ +	C	CHEMISTRY; METALLURGY
→ +	D	TEXTILES; PAPER
→ +	E	FIXED CONSTRUCTIONS
→ +	F	MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING
→ +	G	PHYSICS
→ +	H	ELECTRICITY

IPC Advanced Search

The screenshot displays the IPC Advanced Search interface. On the left, there is a sidebar with search controls. At the top, there are 'Search' and 'Reset' buttons. Below them are icons for a search scope and a gear icon labeled 'Results'. A checkbox for 'Advanced Search' is checked. There are icons for text search (T), search (magnifying glass), pie chart, and star. Under 'Terms search:', there are checkboxes for 'Stemming' (checked), 'Limit to' (with input 'A01N,A01I'), and 'Exclude' (with input 'A01N,A01I'). The 'Path' option is checked and highlighted with a red box, accompanied by a warning triangle icon. Other options include 'Scheme titles' (checked), 'Scheme references' (unchecked), 'Catchwords' (checked), and 'Definitions' (checked).

On the right, there is a list of IPC classes, each with a right arrow and a plus sign icon to its left:

- A HUMAN NECESSITIES
- B PERFORMING OPERATIONS; TRANSPORTING
- C CHEMISTRY; METALLURGY
- D TEXTILES; PAPER
- E FIXED CONSTRUCTIONS
- F MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING
- G PHYSICS
- H ELECTRICITY

IPC Advanced Search

The screenshot displays the IPC Advanced Search interface. On the left side, there is a search control panel with the following elements:

- A **Search** button, which is highlighted with a red box.
- A **Reset** button.
- A search icon and a gear icon for settings.
- A **Results** section with a checkmark and the text "Advanced Search".
- A search input field containing "A01N,A01I".
- A **Terms search:** section with a checkmark and the text "Stemming".
- A **Limit to** input field containing "A01N,A01I".
- An **Exclude** input field containing "A01N,A01I".
- A **Path** section with a checkmark and a warning icon.
- A **Scheme titles** section with a checkmark.
- A **Scheme references** section with a checkmark.
- A **Catchwords** section with a checkmark.
- A **Definitions** section with a checkmark.

On the right side, there is a list of IPC classes with their corresponding descriptions:

A	HUMAN NECESSITIES
B	PERFORMING OPERATIONS; TRANSPORTING
C	CHEMISTRY; METALLURGY
D	TEXTILES; PAPER
E	FIXED CONSTRUCTIONS
F	MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING
G	PHYSICS
H	ELECTRICITY

IPC Search Results

The screenshot displays the IPC Search Results interface. On the left, there are three sections: 'Scheme terms', 'Catchword terms', and 'Definition terms'. The 'Catchword terms' section is highlighted with a red box and contains the terms 'SEMICONDUCTOR(S)' and 'LIGHT'. The main area shows a list of classification categories from A to H, each with a right arrow and a plus sign icon, followed by the category name and its corresponding description.

Category	Description
A	HUMAN NECESSITIES
B	PERFORMING OPERATIONS; TRANSPORTING
C	CHEMISTRY; METALLURGY
D	TEXTILES; PAPER
E	FIXED CONSTRUCTIONS
F	MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING
G	PHYSICS
H	ELECTRICITY

IPC Search Results (Catchwords)

The screenshot displays the IPC Search Results (Catchwords) interface. The sidebar on the left contains three sections: 'Scheme terms' (F21Y 115/30, H01S 3/0941, H01S 5/40, H01S, H01S 5/00, F21K 9/00), 'Catchword terms' (SEMICONDUCTOR(S) highlighted with a red box, LIGHT), and 'Definition terms' (G11B 7/127, G11B 7/126, H01S). The main area shows a list of catchwords from A to H, with 'SEMICONDUCTOR(S)' corresponding to 'ELECTRICITY'.

Letter	Catchword
A	HUMAN NECESSITIES
B	PERFORMING OPERATIONS; TRANSPORTING
C	CHEMISTRY; METALLURGY
D	TEXTILES; PAPER
E	FIXED CONSTRUCTIONS
F	MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING
G	PHYSICS
H	ELECTRICITY

IPC Catchword Index

Catchword terms

SEMICONDUCTOR(S)
LIGHT

Definition terms

G11B 7/127
G11B 7/126
H01S
G02F 2/00
H01L 31/0463
F21K 9/00
F21V
F21L
H04B 10/00
G01J

1/2

Scheme RCL Compilation Catchwords

SEMICARBAZONES C07C 281/08*

SEMICONDUCTOR(S)

cutting or working SEMICONDUCTOR(S) material B28D 5/00
manufacture or treatment of SEMICONDUCTOR(S) devices H01L 21/00
materials for SEMICONDUCTOR(S) C30B
resistors formed from SEMICONDUCTOR(S) material H01C
selection of magnetic SEMICONDUCTOR(S) material H01F 1/40
SEMICONDUCTOR(S) devices having at least one potential barrier H01L
SEMICONDUCTOR(S) devices using field-effect H01L 29/76
SEMICONDUCTOR(S) DRAM devices H01L 27/108
SEMICONDUCTOR(S) integrated circuits H01L 27/00
SEMICONDUCTOR(S) lasers H01S 5/00
SEMICONDUCTOR(S) materials used in thermoelectric devices H01L
SEMICONDUCTOR(S) ROM devices H01L 27/112
SEMICONDUCTOR(S) SRAM devices H01L 27/11
testing SEMICONDUCTOR(S) devices G01R 31/26

SENSING

IPC Scheme

Catchword terms

SEMICONDUCTOR(S)
LIGHT

Definition terms

G11B 7/127
G11B 7/126
H01S
G02F 2/00
H01L 31/0463
F21K 9/00
F21V
F21L
H04B 10/00
G01J

1/2

Scheme RCL Compilation Catchwords

→	H01S 4/00	Devices using stimulated emission of wave energy other than those covered by groups H01S 1/00, H01S 3/00 or H01S 5/00, e.g. phonon maser, gamma maser [2006.01]
→ -	H01S 5/00	Semiconductor lasers [2006.01] Note(s) [2006.01] Attention is drawn to Note (3) after the title of section C, which Note indicates to which version of the periodic table of chemical elements the IPC refers. In this group, the Periodic System used is the 8 group system indicated by Roman numerals in the Periodic Table thereunder.
→ -	H01S 5/02	• Structural details or components not essential to laser action [2006.01]
→	H01S 5/022	• • Mountings; Housings [2006.01]
→	H01S 5/024	• • Cooling arrangements [2006.01]
→	H01S 5/026	• • Monolithically integrated components, e.g. waveguides, monitoring photo-detectors or drivers (stabilisation of output H01S 5/06) [2006.01]
→	H01S 5/028	• • Coatings [2006.01]
→ -	H01S 5/04	• Processes or apparatus for excitation, e.g. pumping (H01S 5/06 takes precedence) [2006.01]
→	H01S 5/042	• • Electrical excitation [2006.01]

IPC Search Results (Definitions)

The screenshot displays the IPC search interface. On the left, a sidebar contains 'Catchword terms' (SEMICONDUCTOR(S) LIGHT) and 'Definition terms' (G11B 7/127, G11B 7/126, H01S, G02F 2/00, H01L 31/0463, F21K 9/00, F21V, F21L, H04B 10/00, G01J). The main area shows search results for 'SEMICONDUCTOR(S) LIGHT' under the 'Scheme' tab. The results are organized into a table with columns for navigation, IPC class, and description.

	Scheme	RCL	Compilation	Catchwords	
→					H01S 4/00 Devices using stimulated emission of wave energy other than those covered by groups H01S 1/00, H01S 3/00 or H01S 5/00, e.g. phonon maser, gamma maser [2006.01]
→	−				H01S 5/00 Semiconductor lasers [2006.01] Note(s) [2010.01] Attention is drawn to Note (3) after the title of section C, which Note indicates to which version of the periodic table of chemical elements the IPC refers. In this group, the Periodic System used is the 8 group system indicated by Roman numerals in the Periodic Table thereunder.
→	−				H01S 5/02 • Structural details or components not essential to laser action [2006.01]
→					H01S 5/022 • • Mountings; Housings [2006.01]
→					H01S 5/024 • • Cooling arrangements [2006.01]
→					H01S 5/026 • • Monolithically integrated components, e.g. waveguides, monitoring photo-detectors or drivers (stabilisation of output H01S 5/06) [2006.01]
→					H01S 5/028 • • Coatings [2006.01]
→	−				H01S 5/04 • Processes or apparatus for excitation, e.g. pumping (H01S 5/06 takes precedence) [2006.01]
→					H01S 5/042 • • Electrical excitation [2006.01]

IPC Search Results (Definitions)

Catchword terms

SEMICONDUCTOR(S)
LIGHT

Definition terms

G11B 7/127

G11B 7/120
H01S
G02F 2/00
H01L 31/0463
F21K 9/00
F21V
F21L
H04B 10/00
G01J

1/2

Scheme RCL Compilation Catchwords

→	H01S 4/00	Devices using stimulated emission of wave energy other than those covered by groups H01S 1/00, H01S 3/00 or H01S 5/00, e.g. phonon maser, gamma maser [2006.01]	
→	-	H01S 5/00	
	Semiconductor lasers [2006.01]	Note(s) [2010.01] Attention is drawn to Note (3) after the title of section C, which Note indicates to which version of the periodic table of chemical elements the IPC refers. In this group, the Periodic System used is the 8 group system indicated by Roman numerals in the Periodic Table thereunder.	
→	-	H01S 5/02	• Structural details or components not essential to laser action [2006.01]
→		H01S 5/022	•• Mountings; Housings [2006.01]
→		H01S 5/024	•• Cooling arrangements [2006.01]
→		H01S 5/026	•• Monolithically integrated components, e.g. waveguides, monitoring photo-detectors or drivers (stabilisation of output H01S 5/06) [2006.01]
→		H01S 5/028	•• Coatings [2006.01]
→	-	H01S 5/04	• Processes or apparatus for excitation, e.g. pumping (H01S 5/06 takes precedence) [2006.01]
→		H01S 5/042	•• Electrical excitation [2006.01]

IPC Scheme

The screenshot displays the IPC Scheme interface with the following components:

- Catchword terms:** SEMICONDUCTOR(S) LIGHT
- Definition terms:** G11B 7/127, G11B 7/126, H01S, G02F 2/00, H01L 31/0463, F21K 9/00, F21V, F21L, H04B 10/00, G01J
- Navigation:** Left arrow, Previous, Next, Right arrow, 1/2
- Scheme Tab:** Active tab, showing a list of terms and their definitions.
- Highlighted Term:** G11B 7/127 (highlighted with a red box) with the definition: "... Lasers; Multiple laser arrays [2012.01]"
- Definitions and References:** A section below the highlighted term with a green background, containing the text: "Definitions", "References", "Informative references", and "Attention is drawn to the following places, which may be of interest for search:". Below this text is a table with two columns: "Lasers; semiconductor lasers" and "H01S 3/00, H01S 5/00".
- Other Terms:** G11B 7/1263, G11B 7/1267, G11B 7/1275, G11B 7/128, G11B 7/13, G11B 7/131

IPC Scheme (Definitions)

The screenshot displays the IPC Scheme (Definitions) interface. On the left, there are two panels: 'Catchword terms' containing 'SEMICONDUCTOR(S) LIGHT' and 'Definition terms' containing a list of classification codes including G11B 7/127, G11B 7/126, H01S, G02F 2/00, H01L 31/0463, F21K 9/00, F21V, F21L, H04B 10/00, and G01J. The main area shows a list of classification codes with their corresponding definitions. A red box highlights the 'D' icon next to the code G11B 7/127. The definitions for the codes are as follows:

Code	Definition
G11B 7/1263	.... Power control during transducing, e.g. by monitoring [2012.01]
G11B 7/1267	.... Power calibration [2012.01]
G11B 7/127	... Lasers; Multiple laser arrays [2012.01]
G11B 7/1275	.... Two or more lasers having different wavelengths [2012.01]
G11B 7/128	... Modulators (G11B 7/1245 takes precedence) [2012.01]
G11B 7/13	.. Optical detectors therefor [2012.01]
G11B 7/131	... Arrangement of detectors in a multiple array [2012.01]

The 'References' section for G11B 7/127 includes 'Lasers; semiconductor lasers' and 'H01S 3/00, H01S 5/00'. The interface also includes navigation controls and a page indicator '1/2'.

IPC Scheme (Definitions)

The screenshot displays the IPC Scheme (Definitions) interface. On the left, there are two panels: 'Catchword terms' containing 'SEMICONDUCTOR(S) LIGHT' and 'Definition terms' containing a list of IPC codes such as G11B 7/127, H01S, G02F 2/00, H01L 31/0463, F21K 9/00, F21V, F21L, H04B 10/00, and G01J. Below these panels are navigation arrows and a page indicator '1/2'. The main area shows a list of terms with their definitions. The term 'G11B 7/127' is highlighted in green. Below it, the 'Definitions' and 'References' sections are visible. The 'References' section is highlighted with a red box and contains the text 'Informative references' and 'Attention is drawn to the following places, which may be of interest for search:'. Below this, there are two boxes: 'Lasers; semiconductor lasers' and 'H01S 3/00, H01S 5/00'. The list of terms continues with G11B 7/125, G11B 7/128, G11B 7/13, and G11B 7/131.

IPC Code	Definition
G11B 7/1263	.... Power control during transducing, e.g. by monitoring [2012.01]
G11B 7/1267	.... Power calibration [2012.01]
G11B 7/127	... Lasers; Multiple laser arrays [2012.01]
Definitions	
References	
Informative references	
Attention is drawn to the following places, which may be of interest for search:	
Lasers; semiconductor lasers	H01S 3/00, H01S 5/00
G11B 7/1275	.... Two or more lasers having different wavelengths [2012.01]
G11B 7/128	... Modulators (G11B 7/1245 takes precedence) [2012.01]
G11B 7/13	.. Optical detectors therefor [2012.01]
G11B 7/131	... Arrangement of detectors in a multiple array [2012.01]

IPC Scheme (Definitions)

The screenshot displays the IPC Scheme (Definitions) interface. On the left, there are two panels: 'Catchword terms' containing 'SEMICONDUCTOR(S) LIGHT' and 'Definition terms' containing a list of IPC codes such as G11B 7/127, H01S, G02F 2/00, H01L 31/0463, F21K 9/00, F21V, F21L, H04B 10/00, and G01J. The main area shows a list of terms with their definitions. The term 'Lasers; semiconductor lasers' is highlighted in a red box. Below this term, there is a section for 'References' with the text 'Attention is drawn to the following places, which may be of interest for search:' followed by a table of references.

IPC Code	Definition
D	
G11B 7/1263	.... Power control during transducing, e.g. by monitoring [2012.01]
G11B 7/1267	.... Power calibration [2012.01]
G11B 7/127	... Lasers; Multiple laser arrays [2012.01]
D	
	Definitions
	References
	<i>Informative references</i>
	<i>Attention is drawn to the following places, which may be of interest for search:</i>
Lasers; semiconductor lasers	H01S 3/00, H01S 5/00
G11B 7/1275	.... Two or more lasers having different wavelengths [2012.01]
G11B 7/128	... Modulators (G11B 7/1245 takes precedence) [2012.01]
D	
G11B 7/13	.. Optical detectors therefor [2012.01]
D	
G11B 7/131	... Arrangement of detectors in a multiple array [2012.01]

IPC Scheme (Definitions)

Catchword terms

SEMICONDUCTOR(S)
LIGHT

Definition terms

G11B 7/127
G11B 7/126
H01S
G02F 2/00
H01L 31/0463
F21K 9/00
F21V
F21L
H04B 10/00
G01J

1/2

Scheme RCL Compilation Catchwords

→	D	G11B 7/1263	.... Power control during transducing, e.g. by monitoring [2012.01]
→		G11B 7/1267	.... Power calibration [2012.01]
→ -	D	G11B 7/127	... Lasers; Multiple laser arrays [2012.01]
-			Definitions
-			References
			<i>Informative references</i>
			Attention is drawn to the following places, which may be of interest for search:
		Lasers; semiconductor lasers	H01S 3/00 H01S 5/00
→		G11B 7/1275	.... Two or more lasers having different wavelengths [2012.01]
→		G11B 7/128	... Modulators (G11B 7/1245 takes precedence) [2012.01]
	D		
→ -		G11B 7/13	.. Optical detectors therefor [2012.01]
	D		
→		G11B 7/131	... Arrangement of detectors in a multiple array [2012.01]

IPC Search Results (STATS)

The screenshot displays the IPC search results interface. On the left, a sidebar titled 'STATS' is highlighted with a red rounded rectangle. It shows a 'Results' section with a pie chart icon and a list of classification codes and their counts: 29 H01L, 24 H01S, 14 G02B, 8 G01N, 6 G02F, 5 G11B, 5 H04B, 5 A61B, 4 G03F, and 4 B23K. Each entry has a '+' icon to its right. Above the sidebar are navigation buttons (back, forward, search) and a '1/2' indicator.

The main content area is divided into sections: 'Definitions', 'References', and 'Informative references'. The 'References' section is highlighted with a green bar. Below it, a text box states: 'Attention is drawn to the following places, which may be of interest for search:'. This is followed by a table with two columns: 'Lasers; semiconductor lasers' and 'H01S 3/00, H01S 5/00'.

Below the table is a list of search results, each with a right-pointing arrow icon and a minus sign icon. The results are:

- G11B 7/1275: •••• Two or more lasers having different wavelengths [2012.01]
- G11B 7/128: ••• Modulators (G11B 7/1245 takes precedence) [2012.01]
- G11B 7/13: •• Optical detectors therefor [2012.01]
- G11B 7/131: ••• Arrangement of detectors in a multiple array [2012.01]
- G11B 7/133: ••• Shape of individual detector elements [2012.01]
- G11B 7/135: •• Means for guiding the beam from the source to the record carrier or from the record carrier to the detector [2012.01]
- G11B 7/1353: ••• Diffractive elements, e.g. holograms or gratings [2012.01]

IPC Search Results (STATS)

The screenshot displays the IPC Search Results (STATS) interface. On the left, a sidebar shows a list of results under the heading "STATS". The "Results" section lists various IPC classes with their counts and expand/collapse icons. The "24 H01S" entry is highlighted with a red rectangle. The main content area on the right is divided into sections: "Definitions", "References", and "Informative references". The "References" section is currently selected and highlighted in green. It contains a table with two columns: "Lasers; semiconductor lasers" and "H01S 3/00, H01S 5/00". Below this table, a list of G11B 7/1275 through G11B 7/1353 is shown, each with a right-pointing arrow and a minus sign icon. To the right of each G11B entry is a list of bullet points describing the class, often followed by a date in brackets, such as [2012.01].

STATS

Results

24	H01S	+
14	G02B	+
8	G01N	+
6	G02F	+
5	G11B	+
5	H04B	+
5	A61B	+
4	G03F	+
4	B23K	+

Definitions

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Lasers; semiconductor lasers	H01S 3/00, H01S 5/00
------------------------------	----------------------

- Two or more lasers having different wavelengths [2012.01]
- Modulators (G11B 7/1245 takes precedence) [2012.01]
- Optical detectors therefor [2012.01]
- Arrangement of detectors in a multiple array [2012.01]
- Shape of individual detector elements [2012.01]
- Means for guiding the beam from the source to the record carrier or from the record carrier to the detector [2012.01]
- Diffractive elements, e.g. holograms or gratings [2012.01]

IPC Search Results (STATS)

1/2

STATS

Results

29	H01L	+
24	H01S	+
14	G02B	+
8	G01N	+
6	G02F	+
5	G11B	+
5	H04B	+
5	A61B	+
4	G03F	+
4	B23K	+

Definitions

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Lasers; semiconductor lasers	H01S 3/00, H01S 5/00
------------------------------	----------------------

G11B 7/1275 •••• Two or more lasers having different wavelengths [2012.01]

G11B 7/128 ••• Modulators (G11B 7/1245 takes precedence) [2012.01]

D

G11B 7/13 •• Optical detectors therefor [2012.01]

D

G11B 7/131 ••• Arrangement of detectors in a multiple array [2012.01]

G11B 7/133 ••• Shape of individual detector elements [2012.01]

G11B 7/135 •• Means for guiding the beam from the source to the record carrier or from the record carrier to the detector [2012.01]

G11B 7/1353 ••• Diffractive elements, e.g. holograms or gratings [2012.01]

IPC Search Results (STATS)

The screenshot displays the IPC Search Results (STATS) interface. On the left, a 'STATS' sidebar shows a list of results with counts and expand/collapse icons. A red box highlights the top five results: 25 H01S 5/183, 21 H01S 5/14, 20 H01S 5/40, 20 H01S 5/022, and 18 H01S 5/10. The main area shows a detailed view of G11B 7/1359, including its definition and references. The 'References' section is highlighted in green and contains the text: 'Informative references' and 'Attention is drawn to the following places, which may be of interest for search:'. Below this, a table lists 'Lasers; semiconductor lasers' and 'H01S 3/00, H01S 5/00'. The definition for G11B 7/1359 is: '... Double or multiple prisms, i.e. having two or more prisms in cooperation [2012.01]'. The references for G11B 7/1359 are: '... Single prisms [2012.01]'. The interface also includes navigation controls at the top left (back, forward, search, refresh) and a '1/2' indicator.

1/2

STATS

Results

- 29 H01L
- 24 H01S
- 25 H01S 5/183
- 21 H01S 5/14
- 20 H01S 5/40
- 20 H01S 5/022
- 18 H01S 5/10
- 14 G02B
- 8 G01N
- 6 G02F
- 5 G11B
- 5 H04B
- 5 A61B
- 4 G03F
- 4 B23K

Definitions

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Lasers; semiconductor lasers	H01S 3/00, H01S 5/00
------------------------------	----------------------

G11B 7/1275 ... Two or more lasers having different wavelengths [2012.01]

G11B 7/128 ... Modulators (G11B 7/1245 takes precedence) [2012.01]

G11B 7/13 ... Optical detectors therefor [2012.01]

G11B 7/131 ... Arrangement of detectors in a multiple array [2012.01]

G11B 7/133 ... Shape of individual detector elements [2012.01]

G11B 7/135 ... Means for guiding the beam from the source to the record carrier or from the record carrier to the detector [2012.01]

G11B 7/1353 ... Diffractive elements, e.g. holograms or gratings [2012.01]

G11B 7/1356 ... Double or multiple prisms, i.e. having two or more prisms in cooperation [2012.01]

G11B 7/1359 ... Single prisms [2012.01]

IPC Search Results (STATS)

H01S 5/183
H01S 5/14
H01S 5/40

STATS	
Results	
29 H01L	+
24 H01S	-
25 H01S 5/183	
21 H01S 5/14	
20 H01S 5/40	
20 H01S 5/022	
18 H01S 5/10	
14 G02B	+
8 G01N	+
6 G02F	+
5 G11B	+
5 H04B	+
5 A61B	+
4 G03F	+
4 B23K	+

→	G11B 7/1275
→	G11B 7/128
D	
→ -	G11B 7/13
D	
→	G11B 7/131
→	G11B 7/133
→ -	G11B 7/135
→	G11B 7/1353
D	
→	G11B 7/1356
→	G11B 7/1359

IPC Search Results (STATS)

H01S 5/00

STATS	
Results	
29 H01L	+
24 H01S	-
25 H01S 5/183	
21 H01S 5/14	
20 H01S 5/40	
20 H01S 5/022	
18 H01S 5/10	
14 G02B	+
8 G01N	+
6 G02F	+
5 G11B	+
5 H04B	+
5 A61B	+
4 G03F	+
4 B23K	+

→	G11B 7/1275
→	G11B 7/128
D	
→ -	G11B 7/13
D	
→	G11B 7/131
→	G11B 7/133
→ -	G11B 7/135
→	G11B 7/1353
D	
→	G11B 7/1356
→	G11B 7/1359

IPC Search Results (Scheme)

The screenshot displays the IPC search results interface. On the left, there are two panels: 'Scheme terms' (highlighted with a red box) and 'Catchword terms'. The 'Scheme terms' panel lists: F21Y 115/30, H01S 3/0941, H01S 5/40, H01S, H01S 5/00, and F21K 9/00. The 'Catchword terms' panel lists: SEMICONDUCTOR(S) and LIGHT. The main search results area shows a list of IPC classes with their corresponding descriptions. The results are as follows:

IPC Class	Description
G11B 7/1263	Power control during transducing, e.g. by monitoring [2012.01]
G11B 7/1267	Power calibration [2012.01]
G11B 7/127	Lasers; Multiple laser arrays [2012.01]
G11B 7/1275	Two or more lasers having different wavelengths [2012.01]
G11B 7/128	Modulators (G11B 7/1245 takes precedence) [2012.01]
G11B 7/13	Optical detectors therefor [2012.01]

Below the search results, there are sections for 'Definitions' and 'References'. The 'References' section includes 'Informative references' and a note: 'Attention is drawn to the following places, which may be of interest for search:'. A table below this note lists 'Lasers; semiconductor lasers' and 'H01S 3/00, H01S 5/00'.

IPC Search Results (Scheme)

The screenshot displays the IPC search results interface. On the left, there are two panels: 'Scheme terms' and 'Catchword terms'. The 'Scheme terms' panel lists several terms, with 'H01S 5/00' highlighted in a red box. The 'Catchword terms' panel lists 'SEMICONDUCTOR(S)' and 'LIGHT'. The main area shows a list of terms with their definitions. The terms are: G11B 7/1263, G11B 7/1267, G11B 7/127 (highlighted in green), G11B 7/1275, G11B 7/128, and G11B 7/13. The definitions are: 'Power control during transducing, e.g. by monitoring [2012.01]', 'Power calibration [2012.01]', 'Lasers; Multiple laser arrays [2012.01]', 'Two or more lasers having different wavelengths [2012.01]', 'Modulators (G11B 7/1245 takes precedence) [2012.01]', and 'Optical detectors therefor [2012.01]'. Below the list, there is a section for 'Definitions' and 'References'. The 'References' section includes 'Informative references' and a note: 'Attention is drawn to the following places, which may be of interest for search:'. A table below this note shows 'Lasers; semiconductor lasers' and 'H01S 3/00, H01S 5/00'.

Results

Scheme terms

- F21Y 115/30
- H01S 3/0941
- H01S 5/40
- H01S
- H01S 5/00**
- H01S 3/00

Catchword terms

- SEMICONDUCTOR(S)
- LIGHT

D

- G11B 7/1263 Power control during transducing, e.g. by monitoring [2012.01]
- G11B 7/1267 Power calibration [2012.01]
- G11B 7/127** ... Lasers; Multiple laser arrays [2012.01]

D

Definitions

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Lasers; semiconductor lasers	H01S 3/00, H01S 5/00
------------------------------	----------------------

D

- G11B 7/1275 Two or more lasers having different wavelengths [2012.01]
- G11B 7/128 Modulators (G11B 7/1245 takes precedence) [2012.01]

D

- G11B 7/13 .. Optical detectors therefor [2012.01]

IPC Search Results (Scheme)

The screenshot displays the IPC search results interface. On the left, there are two panels: 'Scheme terms' and 'Catchword terms'. The 'Scheme terms' panel lists several terms, with 'F21Y 115/30' highlighted in a red box. The 'Catchword terms' panel contains 'SEMICONDUCTOR(S)' and 'LIGHT'. The main area shows search results for 'G11B 7/1263', 'G11B 7/1267', and 'G11B 7/127' (highlighted in green). Below these, there are sections for 'Definitions' and 'References'. The 'References' section includes 'Informative references' and a note: 'Attention is drawn to the following places, which may be of interest for search:'. A table below this note lists 'Lasers; semiconductor lasers' and 'H01S 3/00, H01S 5/00'. At the bottom, there are more search results for 'G11B 7/1275', 'G11B 7/128', and 'G11B 7/13'.

Results

Scheme terms

- F21Y 115/30
- H01S 3/0941
- H01S 5/40
- H01S
- H01S 5/00
- F21K 9/00

Catchword terms

SEMICONDUCTOR(S)
LIGHT

D

- G11B 7/1263 Power control during transducing, e.g. by monitoring [2012.01]
- G11B 7/1267 Power calibration [2012.01]
- G11B 7/127 Lasers; Multiple laser arrays [2012.01]

D

Definitions

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Lasers; semiconductor lasers	H01S 3/00, H01S 5/00
------------------------------	----------------------

D

- G11B 7/1275 Two or more lasers having different wavelengths [2012.01]
- G11B 7/128 Modulators (G11B 7/1245 takes precedence) [2012.01]
- D**
- G11B 7/13 Optical detectors therefor [2012.01]

IPC Scheme

→ -	F21Y	INDEXING SCHEME ASSOCIATED WITH SUBCLASSES F21K, F21L, F21S and F21V, RELATING TO THE FORM OR THE KIND OF THE LIGHT SOURCES OR OF THE COLOUR OF THE LIGHT EMITTED [7]
	D ▲	
		Note(s) [7] This subclass constitutes an indexing scheme associated with subclasses F21K, F21L, F21S and F21V, relating to the form or the kind of the light sources, or of the colour of the light emitted.
→	F21Y 101/00	Point-like light sources [2016.01]
→ +	F21Y 103/00	Elongate light sources, e.g. fluorescent tubes [2016.01]
→ +	F21Y 105/00	Planar light sources [2016.01]
→ +	F21Y 107/00	Light sources with three-dimensionally disposed light-generating elements [2016.01]
→	F21Y 109/00	Light sources with light-generating elements disposed on transparent or translucent supports or substrates [2016.01]
→	F21Y 111/00	Light sources of a form not covered by groups F21Y 101/00-F21Y 107/00 [2016.01]
→ +	F21Y 113/00	Combination of light sources [2016.01]
→ -	F21Y 115/00	Light-generating elements of semiconductor light sources [2016.01]
→ -	F21Y 115/10	• Light-emitting diodes [LED] [2016.01]
→	F21Y 115/15	• • Organic light-emitting diodes [OLED] [2016.01]
→	F21Y 115/20	• Electroluminescent [EL] light sources [2016.01]
→	F21Y 115/30	• Semiconductor lasers [2016.01]

IPC Scheme

<div style="display: flex; align-items: center;"> ➔ - F21Y </div>		INDEXING SCHEME ASSOCIATED WITH SUBCLASSES F21K, F21L, F21S and F21V, RELATING TO THE FORM OR THE KIND OF THE LIGHT SOURCES OR OF THE COLOUR OF THE LIGHT EMITTED [7]
<div style="display: flex; align-items: center;"> D ▲ </div>		
<p>Note(s) [7] This subclass constitutes an indexing scheme associated with subclasses F21K, F21L, F21S and F21V, relating to the form or the kind of the light sources, or of the colour of the light emitted.</p>		
➔	F21Y 101/00	Point-like light sources [2016.01]
➔ +	F21Y 103/00	Elongate light sources, e.g. fluorescent tubes [2016.01]
➔ +	F21Y 105/00	Planar light sources [2016.01]
➔ +	F21Y 107/00	Light sources with three-dimensionally disposed light-generating elements [2016.01]
➔	F21Y 109/00	Light sources with light-generating elements disposed on transparent or translucent supports or substrates [2016.01]
➔	F21Y 111/00	Light sources of a form not covered by groups F21Y 101/00-F21Y 107/00 [2016.01]
➔ +	F21Y 113/00	Combination of light sources [2016.01]
➔ -	F21Y 115/00	Light-generating elements of semiconductor light sources [2016.01]
➔ -	F21Y 115/10	• Light-emitting diodes [LED] [2016.01]
➔	F21Y 115/15	• • Organic light-emitting diodes [OLED] [2016.01]
➔	F21Y 115/20	• Electroluminescent [EL] light sources [2016.01]
➔	F21Y 115/30	• Semiconductor lasers [2016.01]

View options

- Tree view (subgroups)

Exercise

- Activate the tree view in the IPC Scheme 

IPC Search Results (Scheme)

The screenshot displays the IPC search results for the 'Scheme' tab. The interface includes a sidebar on the left with 'Scheme terms' and 'Catchword terms'. The main area shows a list of search results under the heading 'LIGHTING; HEATING'. The first result is 'F21 LIGHTING' with a note about subclass H05B. The second result is 'F21Y INDEXING SCHEME ASSOCIATED WITH SUBCLASSES F21K, F21L, F21S and F21V, RELATING TO THE FORM OR THE KIND OF THE LIGHT SOURCES OR OF THE COLOUR OF THE LIGHT EMITTED [7]', which is highlighted in red. The third result is 'F21Y 101/00 Point-like light sources [2016.01]'. The sidebar on the left shows 'Scheme terms' including F21Y 115/30, H01S 3/0941, H01S 5/40, H01S, H01S 5/00 (highlighted with a red box), and F21K 9/00. 'Catchword terms' include SEMICONDUCTOR(S) and LIGHT.

Results

Scheme RCL Compilation Catchwords

LIGHTING; HEATING

← - **F21** **LIGHTING**

Note(s)
Attention is drawn to Note III of Section H, and in particular that subclass H05B covers electrical aspects of the same technical subjects that are covered by class F21.

← - **F21Y** **INDEXING SCHEME ASSOCIATED WITH SUBCLASSES F21K, F21L, F21S and F21V, RELATING TO THE FORM OR THE KIND OF THE LIGHT SOURCES OR OF THE COLOUR OF THE LIGHT EMITTED [7]**

Note(s) [7]
This subclass constitutes an indexing scheme associated with subclasses F21K, F21L, F21S and F21V, relating to the form or the kind of the light sources, or of the colour of the light emitted.

← **F21Y 101/00** **Point-like light sources [2016.01]**

Scheme terms

F21Y 115/30
H01S 3/0941
H01S 5/40
H01S
H01S 5/00
F21K 9/00

Catchword terms

SEMICONDUCTOR(S)
LIGHT

IPC Scheme

The screenshot displays the IPC Scheme interface. At the top, there are tabs for 'Scheme', 'RCL', 'Compilation', and 'Catchwords'. A red box highlights a search icon in the top left corner. Below the tabs, the main content area shows search results for 'Semiconductor lasers' under the H01S 5/00 classification. The results are organized into a list with expandable sections. The first result is 'H01S 4/00' with a description: 'Devices using stimulated emission of wave energy other than those covered by groups H01S 1/00, H01S 3/00 or H01S 5/00, e.g. phonon maser, gamma maser [2006.01]'. The second result is 'H01S 5/00' with the title 'Semiconductor lasers [2006.01]'. Below this, there is a 'Note(s) [2010.01]' section: 'Attention is drawn to Note (3) after the title of section C, which Note indicates to which version of the periodic table of chemical elements the IPC refers. In this group, the Periodic System used is the 8 group system indicated by Roman numerals in the Periodic Table thereunder.' Below the note, there are four sub-classifications: 'H01S 5/02' (Structural details or components not essential to laser action [2006.01]), 'H01S 5/022' (Mountings; Housings [2006.01]), 'H01S 5/024' (Cooling arrangements [2006.01]), and 'H01S 5/026' (Monolithically integrated components, e.g. waveguides, monitoring photo-detectors or drivers (stabilisation of output H01S 5/06) [2006.01]). On the left side, there are two panels: 'Scheme terms' containing 'F21Y 115/30', 'H01S 3/0941', 'H01S 5/40', 'H01S', 'H01S 5/00', and 'F21K 9/00'; and 'Catchword terms' containing 'SEMICONDUCTOR(S)' and 'LIGHT'.

Classification	Description
H01S 4/00	Devices using stimulated emission of wave energy other than those covered by groups H01S 1/00, H01S 3/00 or H01S 5/00, e.g. phonon maser, gamma maser [2006.01]
H01S 5/00	Semiconductor lasers [2006.01] Note(s) [2010.01] Attention is drawn to Note (3) after the title of section C, which Note indicates to which version of the periodic table of chemical elements the IPC refers. In this group, the Periodic System used is the 8 group system indicated by Roman numerals in the Periodic Table thereunder.
H01S 5/02	• Structural details or components not essential to laser action [2006.01]
H01S 5/022	• • Mountings; Housings [2006.01]
H01S 5/024	• • Cooling arrangements [2006.01]
H01S 5/026	• • Monolithically integrated components, e.g. waveguides, monitoring photo-detectors or drivers (stabilisation of output H01S 5/06) [2006.01]

IPC Scheme

Results

2018.01 Version

H01S 5/00

Home PDF Share

English version
 French version
 English/French

Path view
 Full view
 Hierarchic view
 Maingroup view
 Tree view

CPC FI

<input checked="" type="checkbox"/>	H01S 4/00	Devices using stimulated emission of wave energy other than those covered by groups H01S 1/00, H01S 3/00 or H01S 5/00, e.g. phonon maser, gamma maser [2006.01]
<input checked="" type="checkbox"/>	H01S 5/00	Semiconductor lasers [2006.01] Note(s) [2010.01] Attention is drawn to Note (3) after the title of section C, which Note indicates to which version of the periodic table of chemical elements the IPC refers. In this group, the Periodic System used is the 8 group system indicated by Roman numerals in the Periodic Table thereunder.
<input checked="" type="checkbox"/>	H01S 5/02	• Structural details or components not essential to laser action [2006.01]
<input checked="" type="checkbox"/>	H01S 5/022	• • Mountings; Housings [2006.01]
<input checked="" type="checkbox"/>	H01S 5/024	• • Cooling arrangements [2006.01]
<input checked="" type="checkbox"/>	H01S 5/026	• • Monolithically integrated components, e.g. waveguides, monitoring photo-detectors or drivers (stabilisation of output H01S 5/06) [2006.01]
<input checked="" type="checkbox"/>	H01S 5/028	• • Coatings [2006.01]
<input checked="" type="checkbox"/>	H01S 5/04	• Processes or apparatus for excitation, e.g. pumping (H01S 5/06 takes precedence) [2006.01]
<input checked="" type="checkbox"/>	H01S 5/042	• • Electrical excitation [2006.01]
<input checked="" type="checkbox"/>	H01S 5/06	• Arrangements for controlling the laser output parameters, e.g. by operating on the active medium [2006.01]
<input checked="" type="checkbox"/>	H01S 5/062	• • by varying the potential of the electrodes (H01S 5/065 takes precedence) [2006.01]
<input checked="" type="checkbox"/>	H01S 5/0625	• • • in multi-section lasers [2006.01]

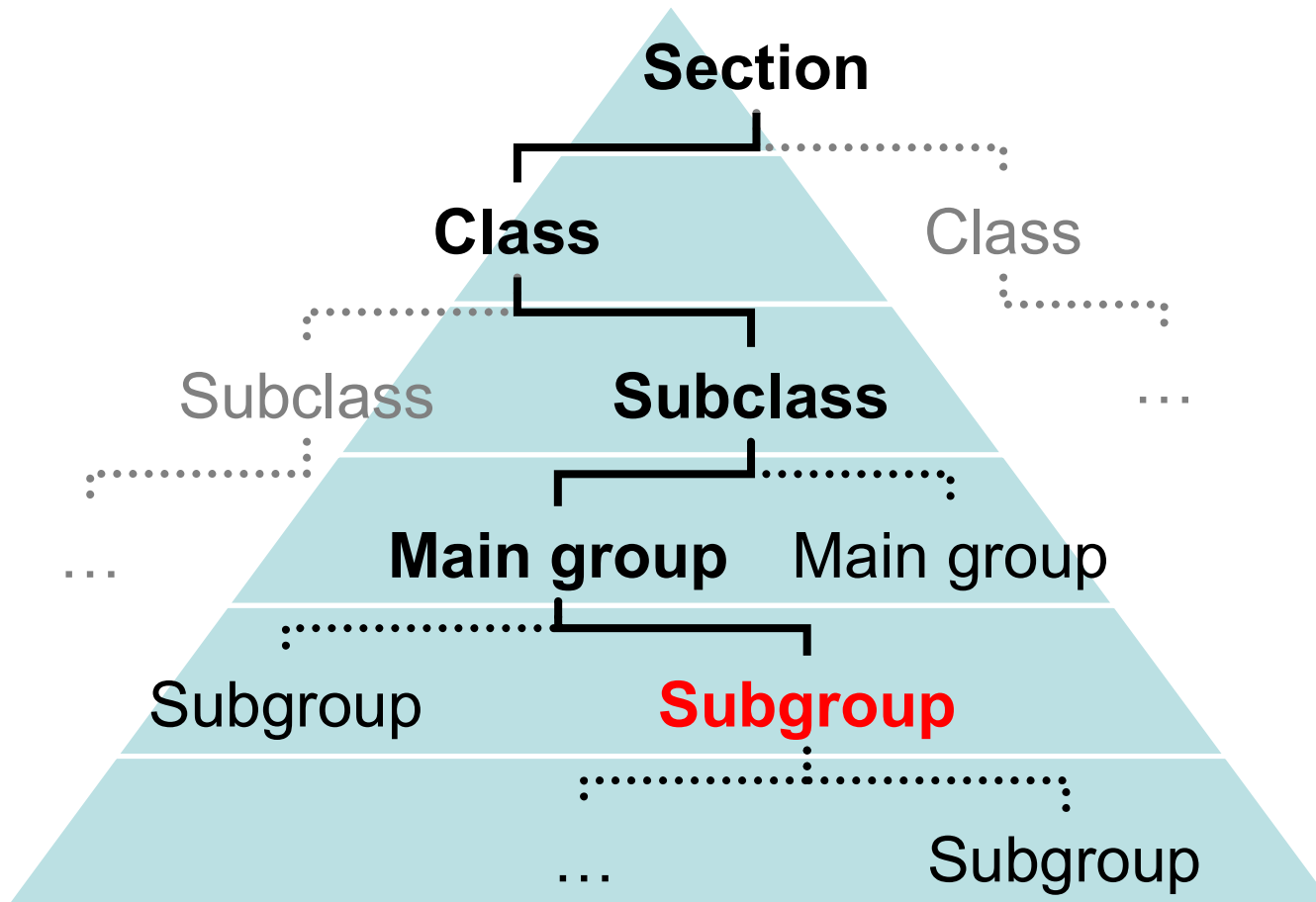
IPC Scheme

→	—	H01S 5/04	• Processes or apparatus for excitation, e.g. pumping (H01S 5/06 takes precedence) [2006.01]
→		H01S 5/042	• Electrical excitation [2006.01]
→	—	H01S 5/06	• Arrangements for controlling the laser output parameters, e.g. by operating on the active medium [2006.01]
→	—	H01S 5/062	• by varying the potential of the electrodes (H01S 5/065 takes precedence) [2006.01]
→		H01S 5/0625	• in multi-section lasers [2006.01]
→		H01S 5/065	• Mode locking; Mode suppression; Mode selection [2006.01]
→	—	H01S 5/068	• Stabilisation of laser output parameters (H01S 5/0625 takes precedence) [2006.01]
→	—	H01S 5/0683	• by monitoring the optical output parameters [2006.01]
→		H01S 5/0687	• Stabilising the frequency of the laser [2006.01]

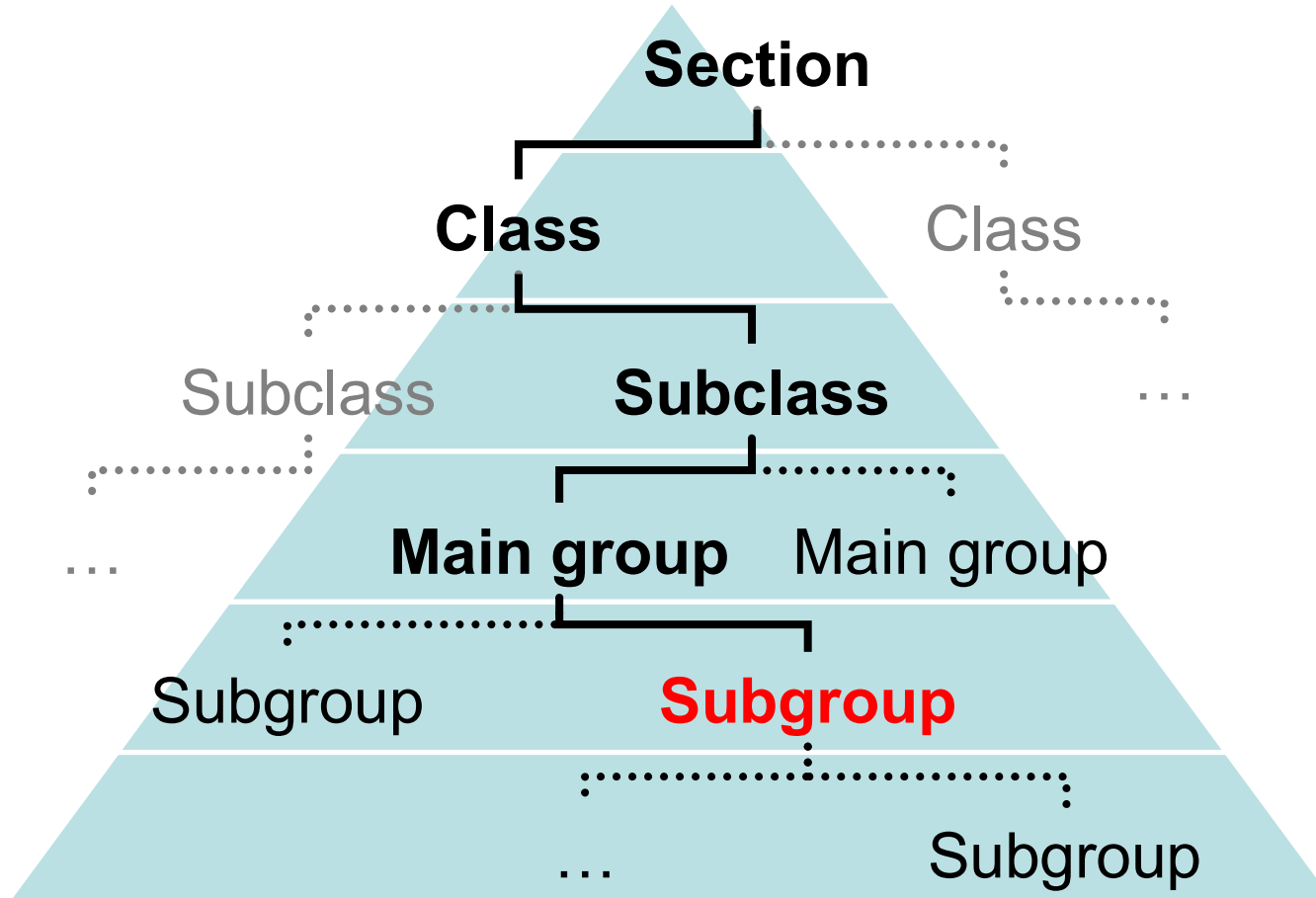
View options

- Full
- Path
- Hierarchical
- Main group

IPC: Structure (full)

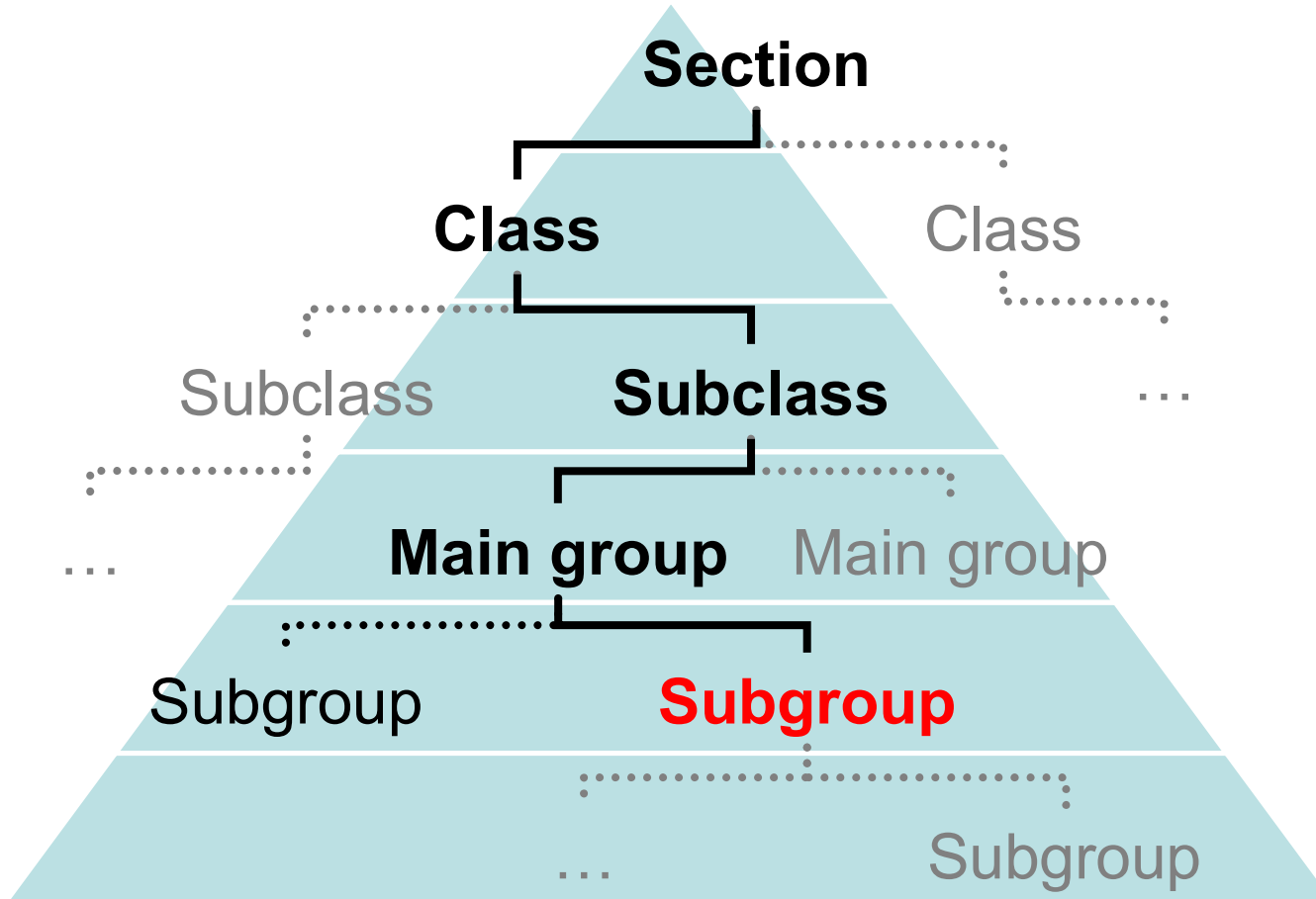


IPC: Structure (main group)

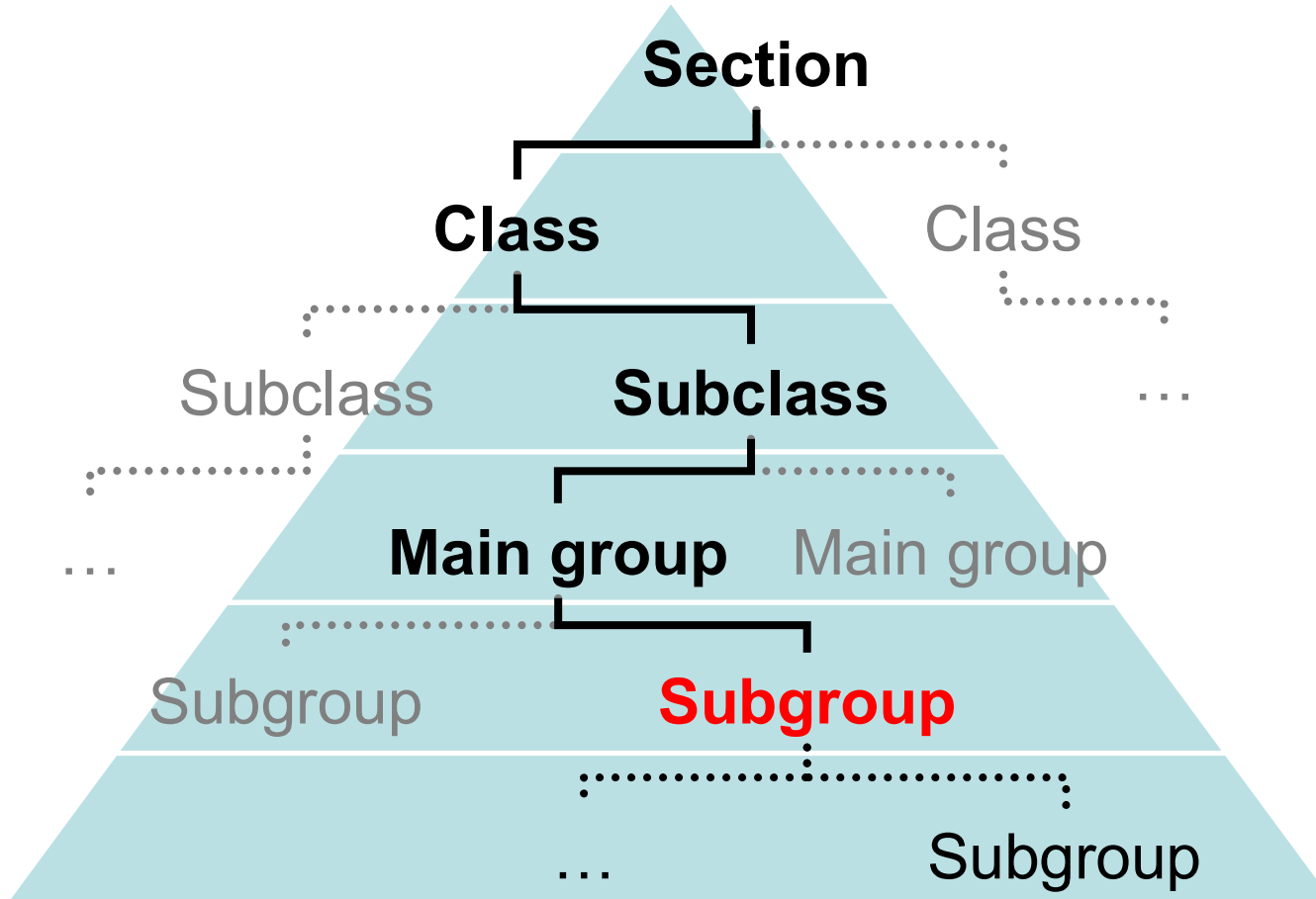


Main groups collapsed (except if selected)

IPC: Structure (hierarchic)



IPC: Structure (path)



Exercise

- Use the different views of the IPC Scheme 

IPC Scheme

The screenshot displays the IPC Scheme interface. On the left is a sidebar with various navigation and filter options. The main content area on the right shows a list of IPC classes, with the 'H01S 5/02' class highlighted by a red box.

IPC Class List:

- H01S 4/00** Devices using stimulated emission of wave energy other than those covered by groups H01S 1/00, H01S 3/00 or H01S 5/00, e.g. phonon maser, gamma maser [2006.01]
- H01S 5/00** Semiconductor lasers [2006.01]
 - Note(s) [2010.01] Attention is drawn to Note (3) after the title of section C, which Note indicates to which version of the periodic table of chemical elements the IPC refers. In this group, the Periodic System used is the 8 group system indicated by Roman numerals in the Periodic Table thereunder.
 - H01S 5/02**
 - Structural details or components not essential to laser action [2006.01]
 - Mountings; Housings [2006.01]
 - Cooling arrangements [2006.01]
 - Monolithically integrated components, e.g. waveguides, monitoring photo-detectors or drivers (stabilisation of output H01S 5/06) [2006.01]
 - Coatings [2006.01]
 - Processes or apparatus for excitation, e.g. pumping (H01S 5/06 takes precedence) [2006.01]
 - Electrical excitation [2006.01]
 - Arrangements for controlling the laser output parameters, e.g. by operating on the active medium [2006.01]
 - by varying the potential of the electrodes (H01S 5/065 takes precedence) [2006.01]
 - in multi-section lasers [2006.01]
 - H01S 5/022
 - H01S 5/024
 - H01S 5/026
 - H01S 5/028
 - H01S 5/04
 - H01S 5/042
 - H01S 5/06
 - H01S 5/062
 - H01S 5/0625

IPC Scheme: Full / Main group

→	H01S 4/00	Devices using stimulated emission of wave energy other than those covered by groups H01S 1/00, H01S 3/00 or H01S 5/00, e.g. phonon maser, gamma maser [2006.01]
→ -	H01S 5/00	Semiconductor lasers [2006.01] Note(s) [2010.01] Attention is drawn to Note (3) after the title of section C, which Note indicates to which version of the periodic table of chemical elements the IPC refers. In this group, the Periodic System used is the 8 group system indicated by Roman numerals in the Periodic Table thereunder.
→ -	H01S 5/02	• Structural details or components not essential to laser action [2006.01]
→	H01S 5/022	• Mountings; Housings [2006.01]
→	H01S 5/024	• Cooling arrangements [2006.01]
→	H01S 5/026	• Monolithically integrated components, e.g. waveguides, monitoring photo-detectors or drivers (stabilisation of output H01S 5/06) [2006.01]
→	H01S 5/028	• Coatings [2006.01]

IPC Scheme: Path

→	—	H01S	DEVICES USING STIMULATED EMISSION
		D	
			Note(s) [2] This subclass covers: <ul style="list-style-type: none">• devices for the generation or amplification, by using stimulated emission, of coherent electromagnetic waves or other forms of wave energy;• such functions as modulating, demodulating, controlling, or stabilising such waves.
→	—	H01S 5/00	Semiconductor lasers [2006.01]
			Note(s) [2010.01] Attention is drawn to Note (3) after the title of section C, which Note indicates to which version of the periodic table of chemical elements the IPC refers. In this group, the Periodic System used is the 8 group system indicated by Roman numerals in the Periodic Table thereunder.
→	—	H01S 5/02	• Structural details or components not essential to laser action [2006.01]
→		H01S 5/022	• Mountings; Housings [2006.01]
→		H01S 5/024	• Cooling arrangements [2006.01]
→		H01S 5/026	• Monolithically integrated components, e.g. waveguides, monitoring photo-detectors or drivers (stabilisation of output H01S 5/06) [2006.01]
→		H01S 5/028	• Coatings [2006.01]

IPC Scheme: Hierarchic

→	−	H01S	DEVICES USING STIMULATED EMISSION
		D	
			Note(s) [2] This subclass <u>covers</u> : <ul style="list-style-type: none">• devices for the generation or amplification, by using stimulated emission, of coherent electromagnetic waves or other forms of wave energy;• such functions as modulating, demodulating, controlling, or stabilising such waves.
→	−	H01S 5/00	Semiconductor lasers [2006.01]
			Note(s) [2010.01] Attention is drawn to Note (3) after the title of section C, which Note indicates to which version of the periodic table of chemical elements the IPC refers. In this group, the Periodic System used is the 8 group system indicated by Roman numerals in the Periodic Table thereunder.
→	+	H01S 5/02	• Structural details or components not essential to laser action [2006.01]
→	+	H01S 5/04	• Processes or apparatus for excitation, e.g. pumping (H01S 5/06 takes precedence) [2006.01]
→	+	H01S 5/06	• Arrangements for controlling the laser output parameters, e.g. by operating on the active medium [2006.01]
→	+	H01S 5/10	• Construction or shape of the optical resonator [2006.01]

Tip!

From	To	View
Any level	Any level	Full
Any level	Any level (faster)	Main group
Specific level	Same level	Hierarchical
Specific level	Subdivisions	Path

Classification

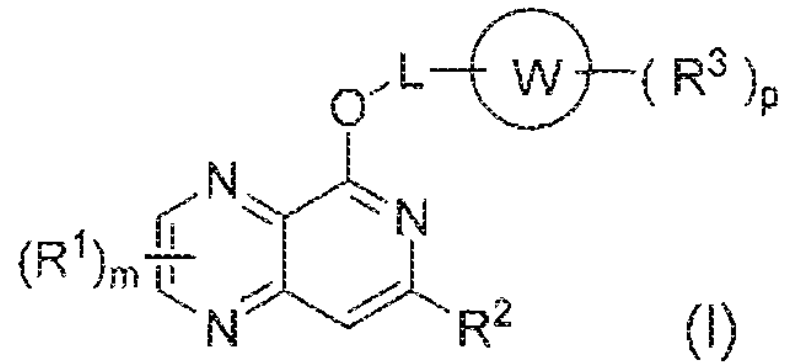
- Structure
 - Arrangement
 - Composition
- Function
- Advantages

Scenario







- A pharmaceutical company develops a new compound in its laboratories and files a patent application for this compound.

Invention

- Structure
 - Cyclic compound
 - Six-membered
 - Orthocondensed
 - Heterocyclic
 - Containing nitrogen
 - ...



IPC Scheme: C07D 471/04

		C07D 471/00	Heterocyclic compounds containing nitrogen atoms as the only ring hetero atoms in the condensed system, at least one ring being a six-membered ring with one nitrogen atom, not provided for by groups C07D 451/00-C07D 463/00 [2006.01]
		C07D 471/02	• in which the condensed system contains two hetero rings [2006.01]
		C07D 471/04	• • Ortho-condensed systems [2006.01]
			

IPC Scheme: A61K 31/4985

➔	—	A61K 31/00	Medicinal preparations containing organic active ingredients [2006.01]
			Note(s) [7] 1. Organic active compounds forming salts or complexes with heavy metals are not classified in groups A61K 31/28, A61K 31/555 or A61K 31/7135, unless explicit indication to the contrary is made, e.g. hemin A61K 31/555. 2. In this group, the expressions "containing further heterocyclic rings" and "condensed with heterocyclic rings" also cover compounds having two or more identical heterocyclic rings.
➔	—	A61K 31/33 D	• Heterocyclic compounds [2006.01]
➔	—	A61K 31/395 D	•• having nitrogen as a ring hetero atom, e.g. guanethidine, rifamycins (rifampin A61K 31/496) [2006.01]
➔	—	A61K 31/495 D	••• having six-membered rings with two nitrogen atoms as the only ring hetero atoms, e.g. piperazine (A61K 31/48 takes precedence) [2006.01]
➔		A61K 31/4985 D	•••• Pyrazines or piperazines ortho- or peri-condensed with heterocyclic ring systems [2006.01]

Caution!

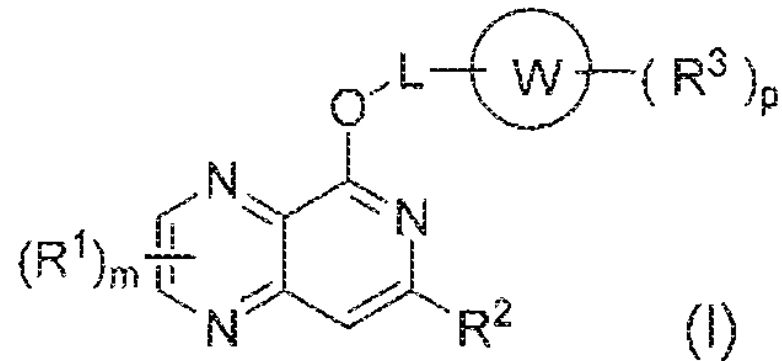
- Multiple classification symbols may have a similar scope
- Consider different classifications that may be relevant

Scenario






- The pharmaceutical company discovers that the compound it developed has anti-inflammatory and anti-neoplastic (anti-cancer) properties.

Invention

- Structure
 - Cyclic compound
 - Six-membered
 - Orthocondensed
 - Heterocyclic
 - Containing nitrogen
 - ...
- Function
 - Anti-arthritic
 - Anti-neoplastic
 - ...



IPC Scheme: A61P 19/02

 	A61P	SPECIFIC THERAPEUTIC ACTIVITY OF CHEMICAL COMPOUNDS OR MEDICINAL PREPARATIONS [7]
	D	
		Note(s) [2012.01] <ol style="list-style-type: none">1. This subclass <u>covers</u> therapeutic activity of chemical compounds or medicinal preparations already classified as such in subclasses A61K or C12N, or in classes C01, C07 or C08.2. In this subclass, the term "drugs" includes chemical compounds or compositions with therapeutic activity.3. In this subclass, therapeutic activity is classified in all appropriate places.4. Attention is drawn to cases where the subject of the invention concerns only specific therapeutic activity of chemical compounds or medical preparations, and the chemical structure, compound, mixture or composition of this subject of the invention is known. In such cases, classification is made in both subclass A61K and subclass A61P as invention information. In addition, if the chemical structure, compound, mixture or composition or any individual ingredient of a mixture or composition is considered to represent information of interest for search, it may also be classified as additional information5. The classification symbols of this subclass are not listed first when assigned to patent documents.
 	A61P 19/00	Drugs for skeletal disorders [2006.01]
	A61P 19/02	• for joint disorders, e.g. arthritis, arthrosis [2006.01]

IPC Scheme: A61P 35/00

→	—	A61P	SPECIFIC THERAPEUTIC ACTIVITY OF CHEMICAL COMPOUNDS OR MEDICINAL PREPARATIONS [7]
		D	
			Note(s) [2012.01] 1. This subclass <u>covers</u> therapeutic activity of chemical compounds or medicinal preparations already classified as such in subclasses A61K or C12N, or in classes C01, C07 or C08. 2. In this subclass, the term "drugs" includes chemical compounds or compositions with therapeutic activity. 3. In this subclass, therapeutic activity is classified in all appropriate places. 4. Attention is drawn to cases where the subject of the invention concerns only specific therapeutic activity of chemical compounds or medical preparations, and the chemical structure, compound, mixture or composition of this subject of the invention is known. In such cases, classification is made in both subclass A61K and subclass A61P as invention information. In addition, if the chemical structure, compound, mixture or composition or any individual ingredient of a mixture or composition is considered to represent information of interest for search, it may also be classified as additional information 5. The classification symbols of this subclass are not listed first when assigned to patent documents.
→	—	A61P 35/00	Antineoplastic agents [2006.01]
→		A61P 35/02	• specific for leukemia [2006.01]
→		A61P 35/04	• specific for metastasis [2006.01]

Tip!

- Inventions may only be classified according to certain aspects
- Consider all different aspects of inventions to be searched (structure, function)

Review

- Advantage → More complete, precise search
- Structure → Hierarchical
- Search → Scheme, Catchwords, Definitions, STATS
- Challenge → Classification symbols with similar scope
- Challenge → Classification according to limitations

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