

# AFTERNOON LAB: SEARCHING FOR PATENTS IN ESPACENET

ANDRÉE LAHAYE | PATENT KNOWLEDGE DIRECTORATE | NOVEMBER 2023

# CONTENT

- Introduction
- Two search modes
- Filters
- User support

# CONTENT

- Introduction
- Two search modes
- Filters
- User support

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Patent search

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**Classification search**

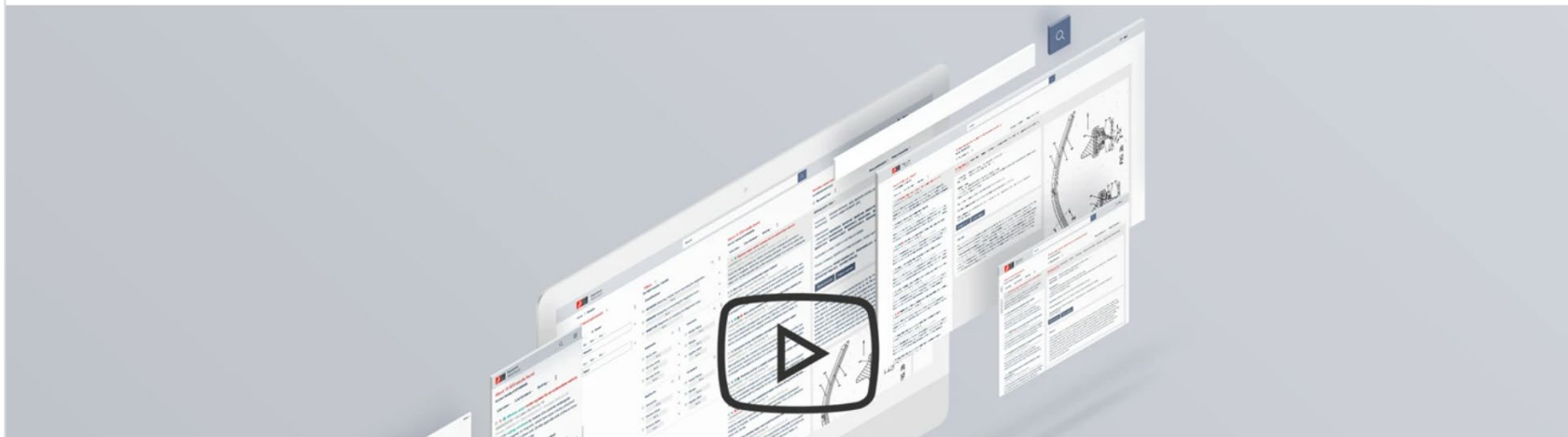
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# CONTENT

- Introduction
- Two search modes
- Filters
- User support

- Smart search (basic, expert)
- Advanced search

siemens scanner A61B6 2012:2022 EP

×

🔍

Office/Language ▼

AND ▼ + Field X

Title ▼ all ▼ → Group

X

Title or abstract ▼ all ▼ → Group

X

OR ▼ + Field X

Publication number ▼ any ▼ → Group

X

Application number ▼ any ▼ → Group

X

Priority number ▼ any ▼ → Group

X

Publication date ▼ - ▼ → Group

X

OR ▼ + Field X

Applicants ▼ any ▼ → Group

X

Inventors ▼ any ▼ → Group

X

OR ▼ + Field X

CPC ▼ any ▼ → Group

X

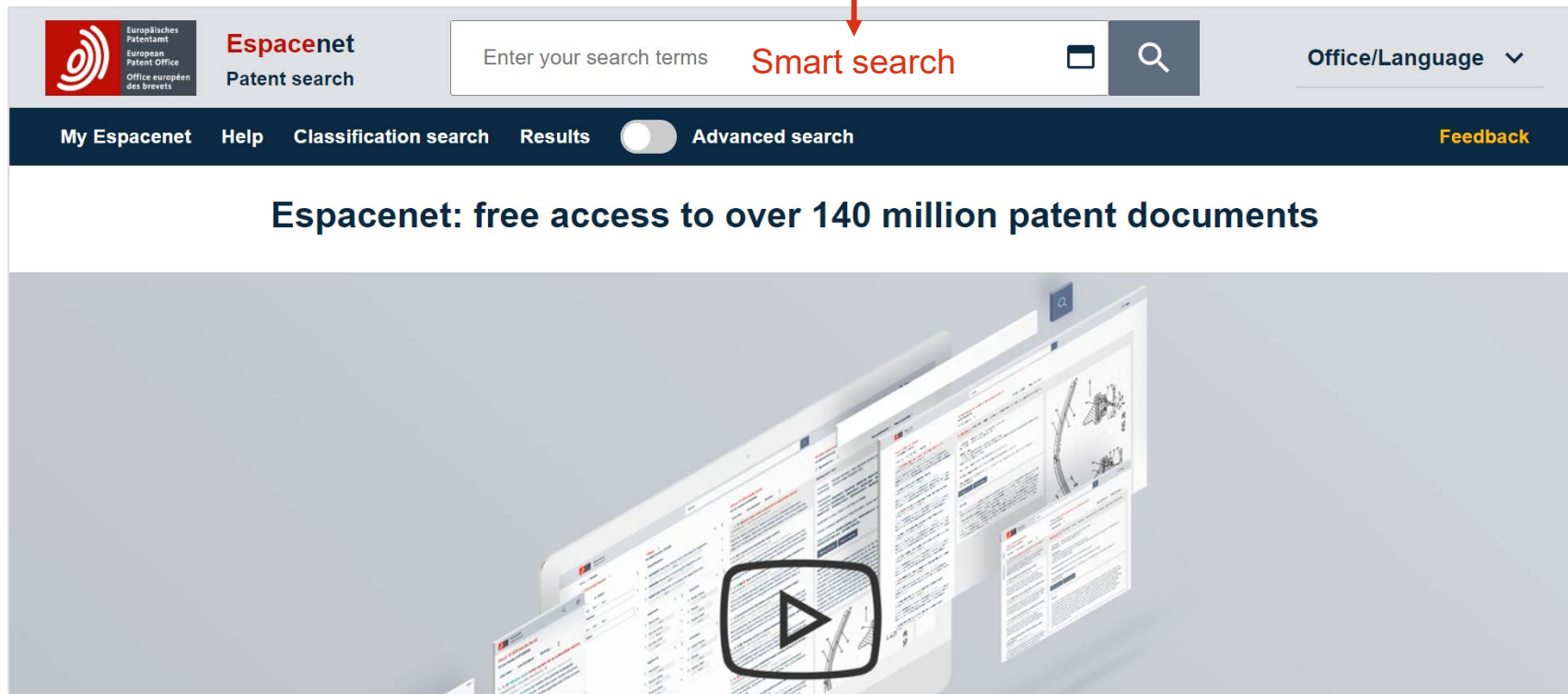
IPC ▼ any ▼ → Group

X


Search

Reset





The screenshot shows the top navigation bar of the Espacenet website. On the left is the EPO logo. Next to it is the text 'Espacenet Patent search'. A search input field contains the placeholder text 'Enter your search terms'. To the right of the input field is a red button labeled 'Smart search', which is highlighted by a red arrow pointing down from above. Further right is a dark button with a magnifying glass icon. To the far right is a dropdown menu labeled 'Office/Language'. Below the search bar is a dark blue navigation bar with links: 'My Espacenet', 'Help', 'Classification search', 'Results', a toggle switch, and 'Advanced search'. A yellow 'Feedback' link is on the right. Below the navigation bar is a large white banner with the text 'Espacenet: free access to over 140 million patent documents'. At the bottom of the banner is a 3D illustration of several overlapping computer monitors displaying patent search results, with a large play button icon overlaid on the central monitor.



**Espacenet**  
Patent search

siemens scanner A61B6 2012:2022 EP

Office/Language ▼

270 results found

List view List content

Text only ▼ All ▼ Relevance ▼ ⋮

☐ (0 patents selected) **Select the first 20 results**


☐ 1. NORMALIZATION CRYSTAL EFFICIENCIES ESTIMATION F...

**EP3399346A1** (B1) • 2018-11-07 • **SIEMENS** MEDICAL SOLUTION...


**Earliest priority: 2017-05-04 • Earliest publication: 2018-11-04**

A method and system for simultaneously monitoring a positron emission tomography **scanner** performance during a continuous-bed-motion acquisition is disclosed.

☐ 2. BIOLOGICALLY INSPIRED INTELLIGENT BODY **SCANNER**



**Espacenet**  
Patent search



Office/Language ▼

## 270 results found

List view  
Text only ▼

List content  
All ▼

Sort by  
Relevance ▼

☐ (0 patents selected) **Select the first 20 results**

☐ 1. **NORMALIZATION CRYSTAL EFFICIENCIES ESTIMATION F...**  
**EP3399346A1 (B1) • 2018-11-07 • SIEMENS MEDICAL SOLUTION...**  
**Earliest priority: 2017-05-04 • Earliest publication: 2018-11-04**  
A method and system for simultaneously monitoring a positron emission tomography scanner performance during a continuous-bed-motion acquisition is disclosed.

☐ 2. **BIOLOGICALLY INSPIRED INTELLIGENT BODY SCANNER**

☆ **EP3399346A1** **NORMALIZATION CRYSTAL EFFICIENCIES ESTIMATION FOR CONTINUOUS MOTION BED ACQUISITION**

Available in ▼ Patent Translate ▼ ⋮ ✕

Bibliographic data ▼

Register ↗ Global Dossier ↗


Applicants **SIEMENS** MEDICAL SOLUTIONS USA INC [US]  
+

Inventors PANIN VLADIMIR Y [US] +


Classifications

IPC **G01T1/29**;

CPC **A61B6/037 (US); A61B6/0407 (US); G01T1/202 (US); G01T1/2985 (EP,US); G06T7/0012 (US); G06T2207/10104 (US);**



**Espacenet**  
Patent search



Office/Language ▼

## 270 results found

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Sort by  
Relevance ▼

☐ (0 patents selected) **Select the first 20 results**

☐ 1. **NORMALIZATION CRYSTAL EFFICIENCIES ESTIMATION F...**  
**EP3399346A1 (B1) • 2018-11-07 • SIEMENS MEDICAL SOLUTION...**  
**Earliest priority: 2017-05-04 • Earliest publication: 2018-11-04**  
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☐ 2. **BIOLOGICALLY INSPIRED INTELLIGENT BODY SCANNER**

☆ **EP3399346A1** **NORMALIZATION CRYSTAL EFFICIENCIES ESTIMATION FOR CONTINUOUS MOTION BED ACQUISITION**

Available in ▼ Patent Translate ▼ ⋮ ✕

Bibliographic data ▼


Application	EP18170350A • 2018-05-02
Publication	EP3399346A1 • 2018-11-07
Published as	CA3003664A1; CA3003664C; EP3399346A1; EP3399346B1; US10482596B2; US2018322626A1

EN DE FR


**NORMALIZATION CRYSTAL EFFICIENCIES ESTIMATION FOR CONTINUOUS MOTION BED ACQUISITION**

**Abstract**

A method and system for simultaneously monitoring a positron emission tomography **scanner** performance during a continuous-bed-motion



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Patent search



Office/Language ▼

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☐ (0 patents selected) **Select the first 20 results**

☐ 1. **NORMALIZATION CRYSTAL EFFICIENCIES ESTIMATION F...**  
**EP3399346A1 (B1) • 2018-11-07 • SIEMENS MEDICAL SOLUTION...**  
**Earliest priority: 2017-05-04 • Earliest publication: 2018-11-04**  
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☐ 2. **BIOLOGICALLY INSPIRED INTELLIGENT BODY SCANNER**

☆ **EP3399346A1** **NORMALIZATION CRYSTAL EFFICIENCIES ESTIMATION FOR CONTINUOUS MOTION BED ACQUISITION**

Available in ▼ Patent Translate ▼ ⋮ ✕

Bibliographic data ▼

Register ➔ 1

Applicants

Inventors

Classifications

IPC

CPC

Bibliographic data

Description

Claims

Drawings

Original document

Citations

Legal events


Patent family

CTIONS USA INC [US]

+

407 (US);  
985 (EP,US);  
207/10104 (US);




**Espacenet**  
 Patent search

siemens scanner A61B6 2012:2022 EP
 Office/Language ▼

**My Espacenet**   **Help**   **Classification search**

**Results**   ☐ Advanced search   ☐ Filters   ☐ Pop up tips   [Report data error](#)   [Feedback](#)

[Home](#) > [Results](#) > **EP3399346A1**

## 270 results found

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☐ (0 patents selected) **Select the first 20 results**

☐ 1. **NORMALIZATION CRYSTAL EFFICIEN...**  
**EP3399346A1** (B1) • 2018-11-07 • **SIEMENS** ...  
**Earliest priority: 2017-05-04 • Earliest publicati...**  
 A method and system for simultaneously monitoring a positron emission tomography **scanner** performance during a continuous-bed-motion acquisition is disclosed.

☐ 2. **BIOLOGICALLY INSPIRED INTELLIGEN...**  
**EP3340251A1** • 2018-06-27 • **SIEMENS HEAL...**  
**Earliest priority: 2016-12-20 • Earliest publicati...**  
 ...An intelligent medical imaging **scanner** system includes an image **scanner**, an operator interface, a database, processors, and a storage medium... use tha

☐ 3. **OPTICAL CAMERA FOR RELATIVE PO...**  
**EP3719520A2** (A3,B1) • 2020-10-07 • **SIEME...**

### ☆ EP3399346A1 NORMALIZATION CRYSTAL EFFICIENCIES ESTIMATION FOR CONTINUOUS MOTION BED ACQUISITION

Available in ▼   Patent Translate ▼   : ✕

**Bibliographic data** ▼

**Register** ➤   **Global Dossier** ➤

**Applicants**   **SIEMENS** MEDICAL SOLUTIONS USA INC [US] +

**Inventors**   PANIN VLADIMIR Y [US] +

**Classifications**

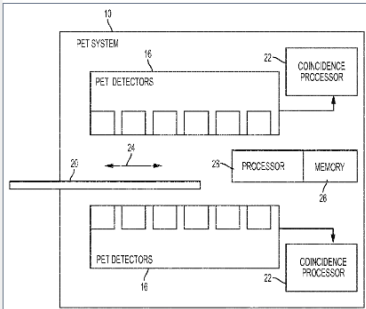
**IPC**   **G01T1/29;**

**CPC**   **A61B6/037 (US); A61B6/0407 (US); G01T1/202 (US); G01T1/2985 (EP,US); G06T7/0012 (US); G06T2207/10104 (US);**

**Priorities**   US201715586485A:2017-05-04

**Application**   **EP18170350A**:2018-05-02


**Publication**   **EP3399346A1**:2018-11-07




Front-page drawing from EP3399346A1


FIG. 1

15

**Espacenet**  
Patent search

pa = "siemens" AND ctxt = "scanner" AND ipc = "A61B6" AND pd = 

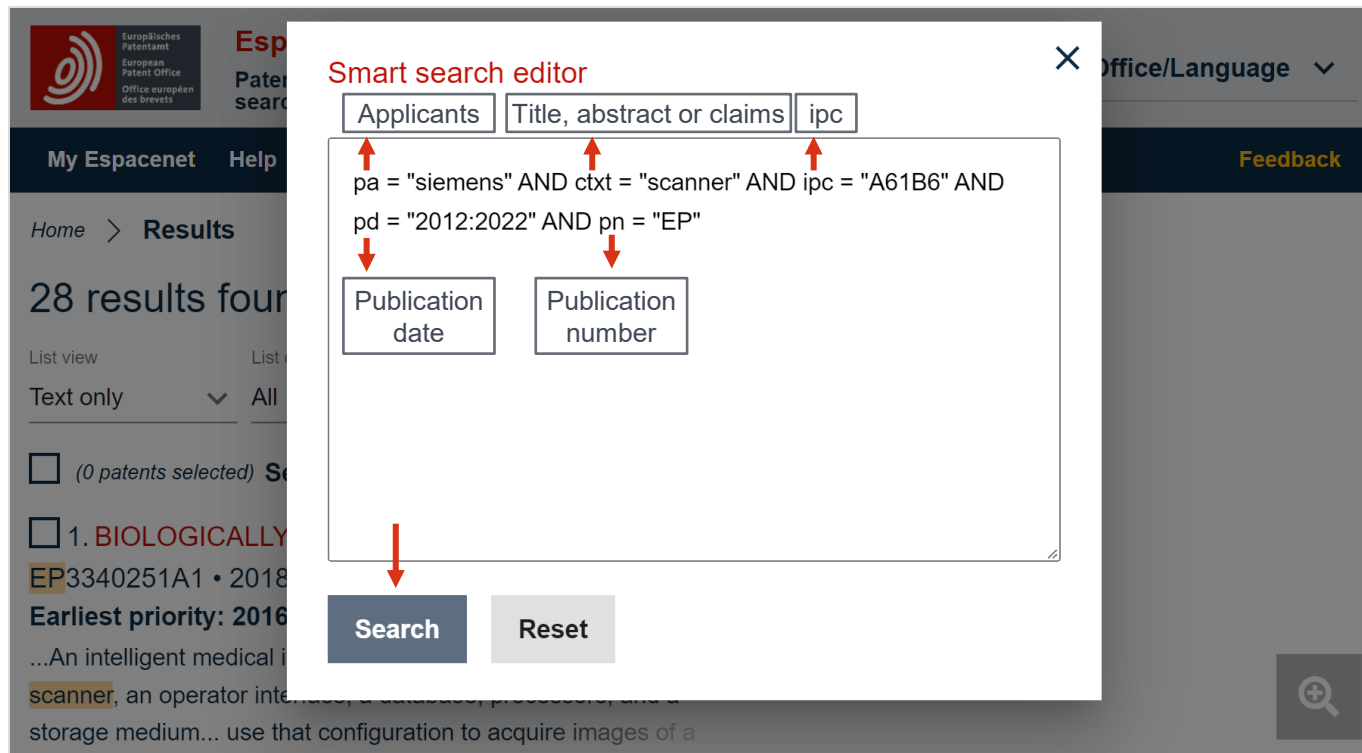
×



Office/Language ▾

My Espacenet Help Classification search Results ☐ Advanced search ☐ Filters ☐ Popup tips [Feedback](#)

Smart search editor



The screenshot shows the 'Smart search editor' window overlaid on the Espacenet search results page. The editor window has a title bar with a close button (X) and the text 'Office/Language' with a dropdown arrow. Below the title bar are three input fields: 'Applicants', 'Title, abstract or claims', and 'ipc'. The main text area contains the search query: 'pa = "siemens" AND ctxt = "scanner" AND ipc = "A61B6" AND pd = "2012:2022" AND pn = "EP"'. Red arrows indicate the mapping of query terms to fields: 'pa' points to 'Applicants', 'ctxt' points to 'Title, abstract or claims', 'ipc' points to 'ipc', 'pd' points to 'Publication date', and 'pn' points to 'Publication number'. Below the text area are two buttons: 'Search' and 'Reset'. The background shows the Espacenet search results page with the header 'My Espacenet Help', 'Home > Results', '28 results found', and a list of search results starting with '1. BIOLOGICALLY' and 'EP3340251A1 • 2018'.


Smart search editor

Applicants Title, abstract or claims ipc

pa = "siemens" AND ctxt = "scanner" AND ipc = "A61B6" AND  
pd = "2012:2022" AND pn = "EP"



Publication date Publication number


Search Reset






Europäisches  
Patentamt  
European  
Patent Office  
Office européen  
des brevets

**Espacenet**  
Patent search

pa = "siemens" AND ctxt = "scanner" AND ipc = "A61B"  





Office/Language 

My Espacenet Help Classification search Results  Advanced search  Filters  Popup tips [Feedback](#)

Home > Results

27 results found



List view List content Sort by

Text only  All  Relevance  

☐ (0 patents selected) **Select the first 20 results**

☐ 1. **BIOLOGICALLY INSPIRED INTELLIGEN...**  
**EP3340251A1 • 2018-06-27 • SIEMENS HEAL...**  
**Earliest priority: 2016-12-20 • Earliest publicati...**  
...An intelligent medical imaging **scanner** system  
includes an image **scanner**, an operator interface, a  
database, processors, and a storage medium... use that

☐ 2. **ROBUST CALCIFICATION TRACKING I...**



?

Replace **0** or **1** character

car? ► car, cars, card, ~~cards~~, ~~carrier~~

#

Replace **exactly 1** character

car# ► ~~car~~, cars, card, ~~cards~~, ~~carrier~~

\*

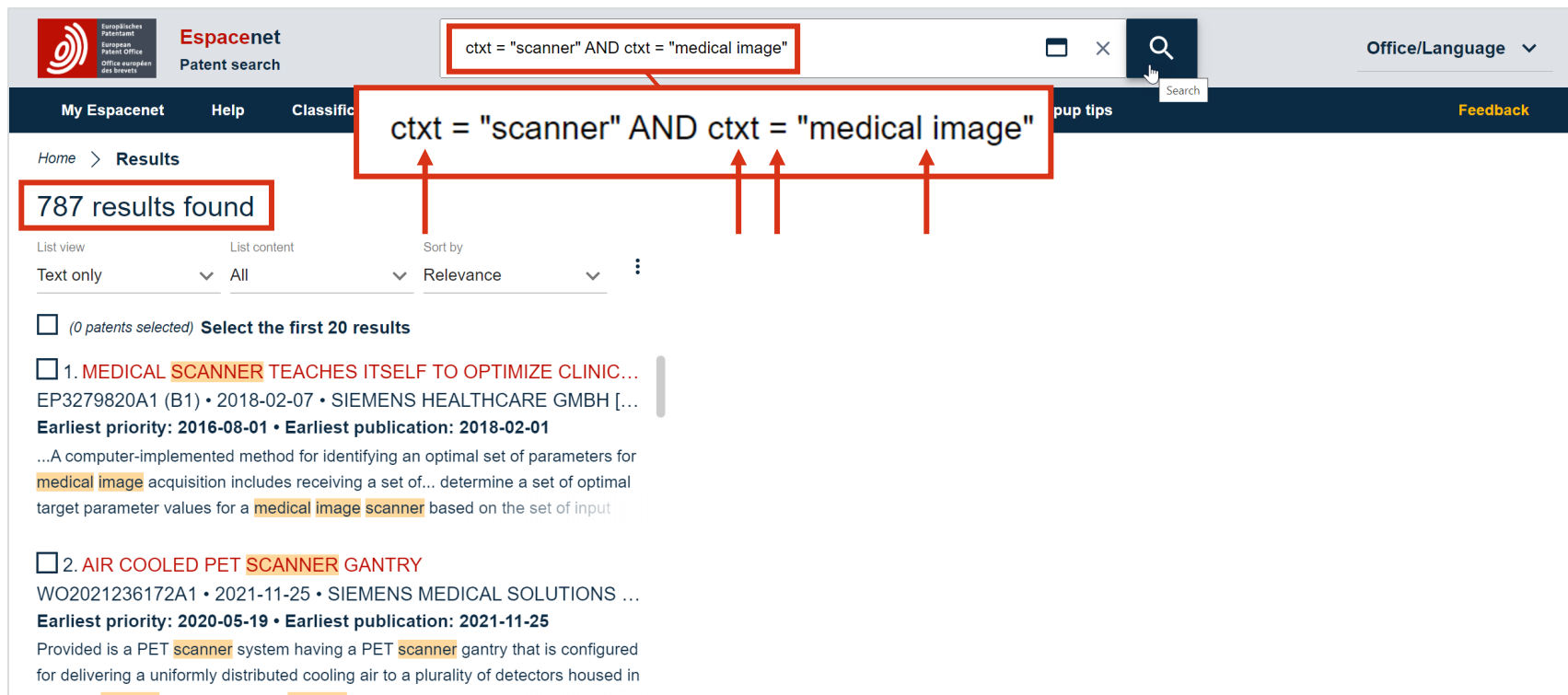
Replace string of characters of **any length**

car\* ► car, cars, card, cards, carrier, ...

Only **right** and **inside** truncation

car\* ou car\*s ► ~~\*cars~~





The screenshot shows the Espacenet Patent search interface. At the top, the search bar contains the query "ctxt = \"scanner\" AND ctxt = \"medical image\"". Below the search bar, the results section shows "787 results found". The first two results are highlighted with red boxes and arrows pointing to the search query. The first result is "1. MEDICAL SCANNER TEACHES ITSELF TO OPTIMIZE CLINIC..." and the second is "2. AIR COOLED PET SCANNER GANTRY".

Logo: Europäisches Patentamt / European Patent Office / Office européen des brevets

Espacenet Patent search

Search bar: ctxt = "scanner" AND ctxt = "medical image"

Office/Language

My Espacenet Help Classification

Home > Results

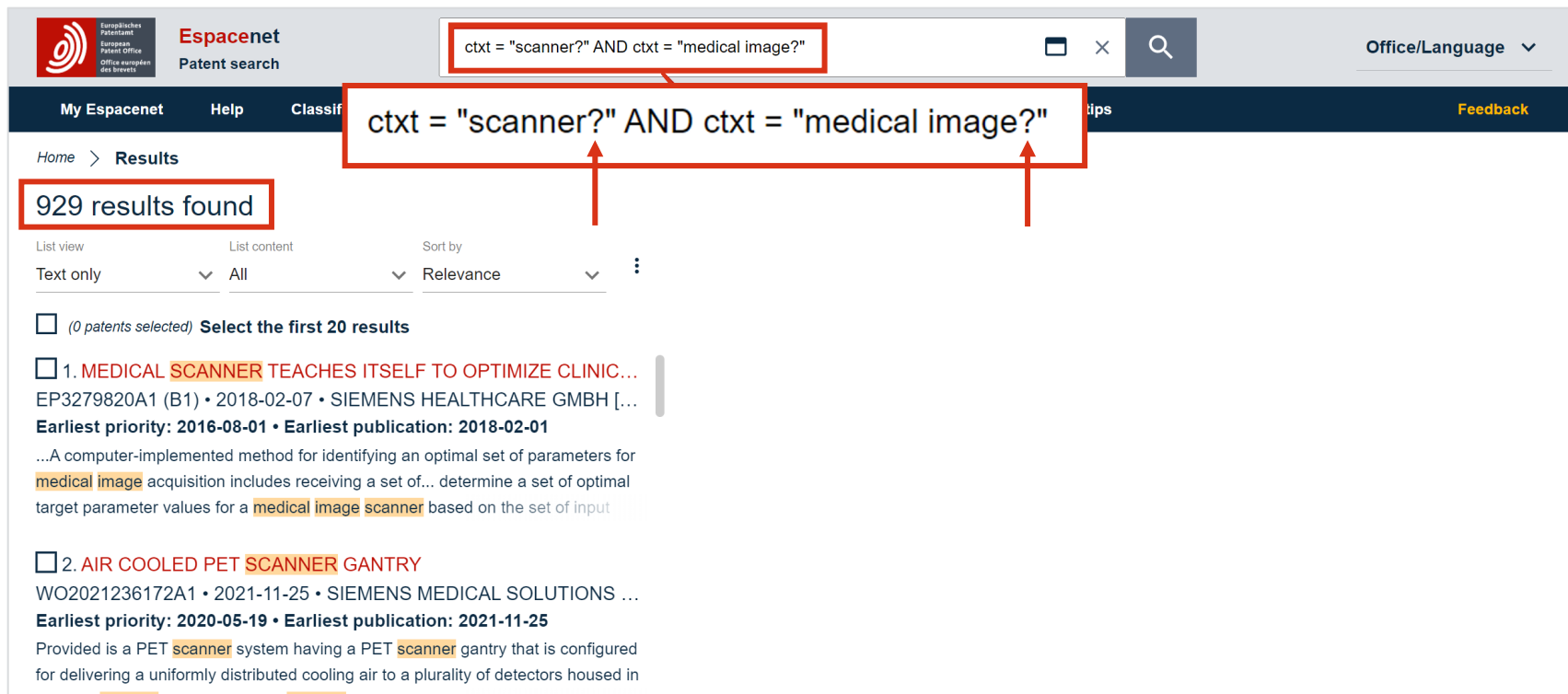
787 results found

List view Text only List content All Sort by Relevance

(0 patents selected) Select the first 20 results

1. MEDICAL SCANNER TEACHES ITSELF TO OPTIMIZE CLINIC...  
EP3279820A1 (B1) • 2018-02-07 • SIEMENS HEALTHCARE GMBH [...]  
Earliest priority: 2016-08-01 • Earliest publication: 2018-02-01  
...A computer-implemented method for identifying an optimal set of parameters for medical image acquisition includes receiving a set of... determine a set of optimal target parameter values for a medical image scanner based on the set of input

2. AIR COOLED PET SCANNER GANTRY  
WO2021236172A1 • 2021-11-25 • SIEMENS MEDICAL SOLUTIONS ...  
Earliest priority: 2020-05-19 • Earliest publication: 2021-11-25  
Provided is a PET scanner system having a PET scanner gantry that is configured for delivering a uniformly distributed cooling air to a plurality of detectors housed in



The screenshot shows the Espacenet Patent search interface. At the top, the search bar contains the query "ctxt = \"scanner?\" AND ctxt = \"medical image?\"". Below the search bar, the navigation bar includes "My Espacenet", "Help", and "Classif". The main content area shows "929 results found" and a list of search results. The first result is "1. MEDICAL SCANNER TEACHES ITSELF TO OPTIMIZE CLINIC..." with details: EP3279820A1 (B1) • 2018-02-07 • SIEMENS HEALTHCARE GMBH [...]. The second result is "2. AIR COOLED PET SCANNER GANTRY" with details: WO2021236172A1 • 2021-11-25 • SIEMENS MEDICAL SOLUTIONS ....

Europäisches  
Patentamt  
European  
Patent Office  
Office européen  
des brevets

**Espacenet**  
Patent search

ctxt = "scanner?" AND ctxt = "medical image?"

Office/Language ▾

My Espacenet Help Classif

Home > Results


929 results found

List view List content Sort by  
Text only ▾ All ▾ Relevance ▾ ⋮

☐ (0 patents selected) Select the first 20 results

☐ 1. MEDICAL SCANNER TEACHES ITSELF TO OPTIMIZE CLINIC...  
EP3279820A1 (B1) • 2018-02-07 • SIEMENS HEALTHCARE GMBH [...]  
**Earliest priority: 2016-08-01 • Earliest publication: 2018-02-01**  
...A computer-implemented method for identifying an optimal set of parameters for  
medical image acquisition includes receiving a set of... determine a set of optimal  
target parameter values for a medical image scanner based on the set of input

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WO2021236172A1 • 2021-11-25 • SIEMENS MEDICAL SOLUTIONS ...  
**Earliest priority: 2020-05-19 • Earliest publication: 2021-11-25**  
Provided is a PET scanner system having a PET scanner gantry that is configured  
for delivering a uniformly distributed cooling air to a plurality of detectors housed in



**Espacenet**  
Patent search

Enter your search terms

Office/Language ▾

My Espacenet Help Classification search Results ☒ Advanced search Feedback

Query language: en de fr ▾

AND ▾ + Field

AND ▾ + Field X

Title ▾ all ▾ → Group  
 X

Title or abstract ▾ all ▾ → Group  
 X

OR ▾ + Field X

Publication number ▾ any ▾ → Group  
 X

Application number ▾ any ▾ → Group  
 X

Priority number ▾ any ▾ → Group  
 X

Publication date ▾ = ▾ → Group  
 X

OR ▾ + Field X

Applicants ▾ any ▾ → Group  
 X

Inventors ▾ any ▾ → Group  
 X

OR ▾ + Field X

CPC ▾ any ▾ → Group  
 X

IPC ▾ any ▾ → Group  
 X

Search Reset

AND ▾ + Field

AND ▾ + Field ✕

Title ▾ all ▾ → Group  
 ✕

Title or abstract ▾ all ▾ → Group  
 ✕


OR ▾ + Field ✕

Publication number ▾ any ▾ → Group  
 ✕

Application number ▾ any ▾ → Group  
 ✕

Priority number ▾ any ▾ → Group  
 ✕

Search Reset



Europäisches  
Patentamt  
European  
Patent Office  
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**Espacenet**  
Patent search

pn any "CN111902040A CN109640620A CN106489427A"

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Query language: en de fr ▾

AND ▾ + Field

Publication number ▾ any ▾ → Group

CN111902040A CN109640620A CN106489427A ×

**Search** **Reset**


☐ (0 patents selected)

**Select the first 3 results**

☐ 1. **FRUIT AND VEGETABLE HARVE...**  
**CN111902040A** • 2020-11-06 • HONDA ...  
**Earliest priority: 2018-03-28 • Earliest pu...**  
A fruit and vegetable harvesting device 10 that harvests fruit or vegetables 1 connected to a branch 3, via a peduncle 2. The fruit and

☐ 2. **SYSTEM AND METHOD FOR PL...**  
**CN109640620A** (B) • 2019-04-16 • TEV...  
**Earliest priority: 2016-08-18 • Earliest pu...**  
The present invention provides a fruit




**Espacenet**  
 Patent search

pn any "CN111902040A CN109640620A CN106489427A"

Office/Language ▼

My Espacenet Help Classification search Results

Advanced search Filters Popup tips

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Query language: en de fr ▼

AND ▼ + Field

Publication number ▼ any ▼ → Group

CN111902040A CN109640620A CN106489427A

Search Reset

3 results found

List view List content Sort by  
 Text only ▼ All ▼ Relev... ▼

☐ (0 patents selected)

Select the first 3 results

☐ 1. FRUIT AND VEGETABLE HARVE...  
**CN111902040A** • 2020-11-06 • HONDA ...  
**Earliest priority: 2018-03-28 • Earliest pu...**  
 A fruit and vegetable harvesting device 10 that harvests fruit or vegetables 1 connected to a branch 3, via a peduncle 2. The fruit and

☐ 2. SYSTEM AND METHOD FOR PL...  
**CN109640620A** (B) • 2019-04-16 • TEV...  
**Earliest priority: 2016-08-18 • Earliest pu...**  
 The present invention provides a fruit harvesting, dilution and/or pruning system comprising: (a) a

☆ **CN111902040A** **FRUIT AND VEGETABLE HARVESTING DEVICE**

Available in ▼ Patent Translate ▼

Bibliographic data ▼

Global Dossier →

Applicants

Inventors

Classifications

IPC

CPC

Bibliographic data

Description

Claims

Drawings

Original document

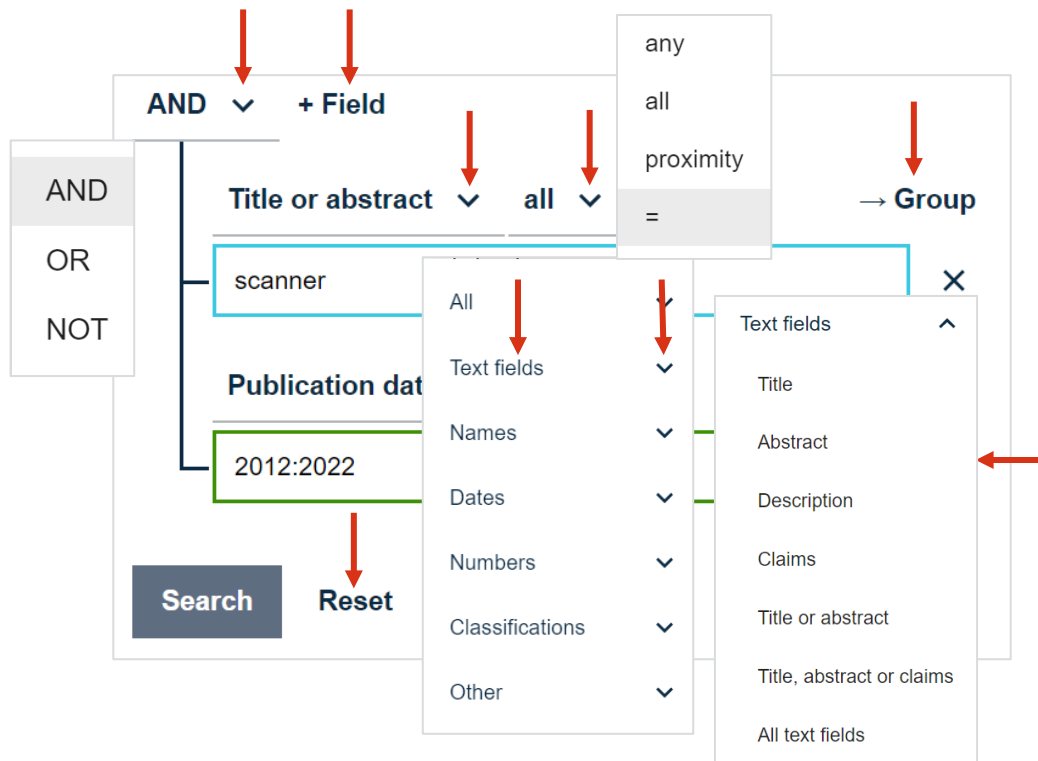
Citations

Legal events

Patent family

D46/30 (EP,US);  
 5/0616 (US);  
 A01D46/005 (US);

- Change search criteria
- Change Boolean operators
- Change field operators
- Manage search fields



AND ▾ + Field

Title, abstract or claims ▾ = ▾ → Group

Any  
All  
Proximity  
=

Search Reset

X

The image shows a search interface with a dropdown menu for field operators. The field 'Title, abstract or claims' is selected. The dropdown menu is open, showing the following options: Any, All, Proximity, and '='. The '=' option is highlighted. A red arrow points to the '=' operator in the dropdown, and another red arrow points to the '=' symbol between the field and the operator. A blue box highlights the field, and a blue 'X' is next to the dropdown. The 'Search' and 'Reset' buttons are at the bottom left.

AND ▼ + Field

Title, abstract or claims ▼ = ▼ → Group

safety cap X

Search Reset

⇒ Exact expression, in that order

4 629 results found

- List view Text only ▼ List content All ▼ Sort by Relevance ▼ ⋮
- ☐ (0 patents selected) Select the first 20 results
- ☐ 1. SAFETY CAP  
US2015175324A1 (B2) • 2015-06-25 • SHINKO CHEM [JP]  
**Earliest priority: 2012-06-07 • Earliest publication: 2013-12-12**  
A safety cap including a screw-type inner cap detachably mounted on a mouth of a container; and an outer...
- ☐ 2. SAFETY CAP  
US11148859B2 (A1) • 2021-10-19 • PASCAL HOLDINGS LL...  
**Earliest priority: 2018-07-03 • Earliest publication: 2019-09-17**  
... securement to a container. In some embodiments, the safety cap includes a casing with at least one downwardly projecting fin...
- ☐ 3. Safety cap.

AND ▼ + Field

Title, abstract or claims ▼ **any** ▼ → Group

helmet? headgear? cap?

×

Search

Reset



Same result  
1 817 419 results found



**OR** ▼ + Field

Title, abstract or claims ▼ = ▼ → Group

helmet?

×

Title, abstract or claims ▼ = ▼ → Group

headgear?

×

Title, abstract or claims ▼ = ▼ → Group

cap?

×

Search

Reset

AND ▾ + Field

Title, abstract or claims ▾ **all** ▾ → Group  
 ×

Applicants ▾ = ▾ → Group  
 ×

Publication date ▾ = ▾ → Group  
 ×

Search

Reset

Same result  
 262 results found

AND ▾ + Field

Title, abstract or claims ▾ = ▾ → Group  
 ×

Title, abstract or claims ▾ = ▾ → Group  
 ×

Title, abstract or claims ▾ = ▾ → Group  
 ×

Applicants ▾ = ▾ → Group  
 ×

Publication date ▾ = ▾ → Group  
 ×

Search

Reset

Query language: en de fr ▼

AND ▼ + Field

Title, abstract or claims ▼ all ▼ → Group

autonomous AND car X

Publication date ▼ within ▼ → Group

2020:2021 X

Search

Reset

⇒ Don't enter Boolean terms in search fields

1 651 results found

List view ▼ List content ▼ Sort by ▼  
 Text only ▼ All ▼ Relevance ▼

☐ (0 patents selected) Select the first 20 results

☐ 1. Autonomous loading and unloading method and system for unmanned mine car  
 CN111240338A • 2020-06-05 • SANY ZHIKUANG TEC...  
 Earliest priority: 2020-02-11 • Earliest publication: 2020-...  
 ...The invention discloses an autonomous loading and unloading method and system for an unmanned mine car. According to the autonomous loading and unloading method for the unmanned

☐ 2. AUTONOMOUS MOVING BODY, CONTROL PR...  
 US2020363802A1 • 2020-11-19 • TOYOTA MOTOR C...  
 Earliest priority: 2019-05-13 • Earliest publication: 2020-...  
 ...An autonomous moving body includes: a determination unit configured to determine that the autonomous moving body has arrived at a waiting area on a current floor before the autonomous

☐ 3. METHOD AND SYSTEM FOR MODIFYING A CO...  
 WO2020095076A1 • 2020-05-14 • AIMOTIVE KFT [HU]  
 Earliest priority: 2018-11-09 • Earliest publication: 2019-...  
 ...The invention is a method for modifying a control unit of an autonomous car equipped with sensors, in the course of which, - disengagement related data are recorded during an autonomous

☐ 4. Multidirectional autonomous following balance car...  
 CN112722137A • 2021-04-30 • BEIJING INSTITUTE T...

☆ CN111240338A Autonomous loading and unloading method and system for unmanned mine car

Claims ▼

Original claims Claims tree

Global Dossier ↗

EN ZH

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The wording below is an initial machine translation of the original publication. To generate a version using the latest translation technology, go to the original language text and use Patent Translate.

1. An autonomous loading and unloading method for unmanned mining carts is characterized in that it comprises:

Obtain environmental information near the driverless mine car



Controlling the travel trajectory of the unmanned mining vehicle according to the environmental information near the unmanned mining vehicle, so that the unmanned mining vehicle is parked at the loading position;


After the unmanned mining vehicle is parked at the loading position, the V2X vehicle terminal of the unmanned mining vehicle and the V2X loading side




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**Earliest priority: 2019-09-05 • Earliest publication: 2020-05-19**  
The utility model provides a solar energy and air source combined pressure-bearing type domestic hot water system. The system comprises a water return circulating pump, a solar heat collector, a solarcirculating pump, an electric

☐ 2. **Solar heat pump water heater**  
CN205783866U • 2016-12-07 • LONGCHUAN NEW ENERGY TECH...  
**Earliest priority: 2016-06-22 • Earliest publication: 2016-12-07**  
The utility model provides a solar heat pump water heater, including solar energy heating the water tank and solar heat collection device, solar heat collection device comprises medium liquid storage pot, solar energy collection pipe and

☐ 3. **Distributed solar-assisted central heating system**  
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NEW ENERGY TECH...  
 tion: 2016-12-07  
 heater, including solar energy  
 ce, solar heat collection  
 energy collection pipe and  
 g system


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<input type="checkbox"/> F24D19/10	1 540
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<input type="checkbox"/> F24F5/00	1 316
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### IPC description as indicated in the relevant CPC symbol - A01G9/24

Classification symbol	Title and description	
<b>A</b>	HUMAN NECESSITIES	<input type="button" value="S"/>
<b>AGRICULTURE</b>		
<b>A01</b>	AGRICULTURE; FORESTRY; ANIMAL HUSBANDRY; HUNTING; TRAPPING; FISHING	
<b>A01G</b>	HORTICULTURE; CULTIVATION OF VEGETABLES, FLOWERS, RICE, FRUIT, VINES, HOPS OR SEAWEED; FORESTRY; WATERING (...)	<input type="button" value="S"/> <input type="button" value="D"/> <input type="button" value="⚠"/>
<b>A01G 9/00</b>	Cultivation in receptacles, forcing-frames or greenhouses (...); Edging for beds, lawn or the like	<input type="button" value="D"/>
<b>A01G 9/24</b>	<ul style="list-style-type: none"> <li>Devices <b>for systems</b> for heating, ventilating, regulating temperature <b>{, illuminating}</b>, or watering, in greenhouses, forcing-frames, or the like</li> </ul>	<input type="button" value="D"/>

☐ 3. Distributed solar-assisted central heating system


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IPC subgroups

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<input type="checkbox"/> A01G9/14	811
<input type="checkbox"/> A01G25/16	696
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**Earliest priority: 2017-05-12 • Earliest publication: 2018-02-23**  
 The utility model discloses a multi -functional solar agricultural big -arch shelter of heat accumulation formula, including solar energy collection system, groundwater heating coil, heat storage tank, methane tank, solar electric system and

☐ 2. Method for irrigating by using solar energy  
 CN109220717A • 2019-01-18 • FARMLAND IRRIGATION RES INST ...  
**Earliest priority: 2018-08-28 • Earliest publication: 2019-01-18**  
 The invention discloses a method for irrigating by using solar energy. The method can achieve irrigation of a farmland without electricity and with water, conduct irrigation, and then move to another farmland for irrigation or move home, a solar

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claims = "water" AND claims = "pump" AND claims = "solar" AN

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UNIV CHINA AGRICULTURAL 18  
 UNIV KUNMING SCIENCE & TECH 13  
 INST OF ENVIRONMENT AND SUSTAINAB  
 UNIV LANZHOU TECH 11  
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Query language: en / de / fr
 Filters: IPC subgroups: A01G9/24 OR A01G25/02
 Applicants: UNIV TARIM
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Earliest priority date

IPC main groups

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Applicants: tarim

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CN110089317A • 2019-08-06 • UNIV TARIM  
**Earliest priority: 2019-03-29 • Earliest publication: 2019-...**  
The invention belongs to the field of facility cultivation, and particularly relates to a water curtain heat collection underfloor-heating warming facility of a solar greenhouse and a using method of

☐ 2. Solar pumping irrigation device  
CN208080120U • 2018-11-13 • UNIV TARIM  
**Earliest priority: 2018-04-09 • Earliest publication: 2018-1...**  
The utility model relates to a solar pumping irrigation device, including upper end open -ended header tank, the header tank upper end is provided with the water collecting bucket of

☐ 3. Solar greenhouse water curtain heat collection floo...

☆ CN110089317A Water curtain heat collection underfloor-heating warming facility of solar greenhouse and using method of facility

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Bibliographic data

Global Dossier

Applicants: UNIV TARIM; INST OF ENVIRONMENT AND SUSTAINABLE DEVELOPMENT IN AGRICULTURE CHINESE ACADEMY OF AGRICULTURAL SCIEN; XINJIANG DAMO HUAWEI AGRICULTURE TECH CO LTD + LIU YIFEI; WANG CHUNLING; TAN ZHANMING; DU HONGBIN; ZHANG YI; FANG HUI; CHENG RUIFENG; YANG QICHANG; HOU YANHUA; CHEN WEI +

Inventors

Classifications: IPC A01G9/24; F24D3/12;


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 CN209824626U • 2019-12-24 • UNIV TARIM

**CN208080120U Solar pumping irrigation device**

**Patent Translate**

**Bibliographic data**

**Applicants**

UNIV TARIM +

**Inventors**

ZHU LIANYONG; HOU XIAOHUA +

**Classifications**

IPC

A01G25/02; E03B3/02;

**CPC**

Y02A20/108 (EP); Y02P60/12 (EP);

**Priorities**

CN201820493461U-2018-04-09

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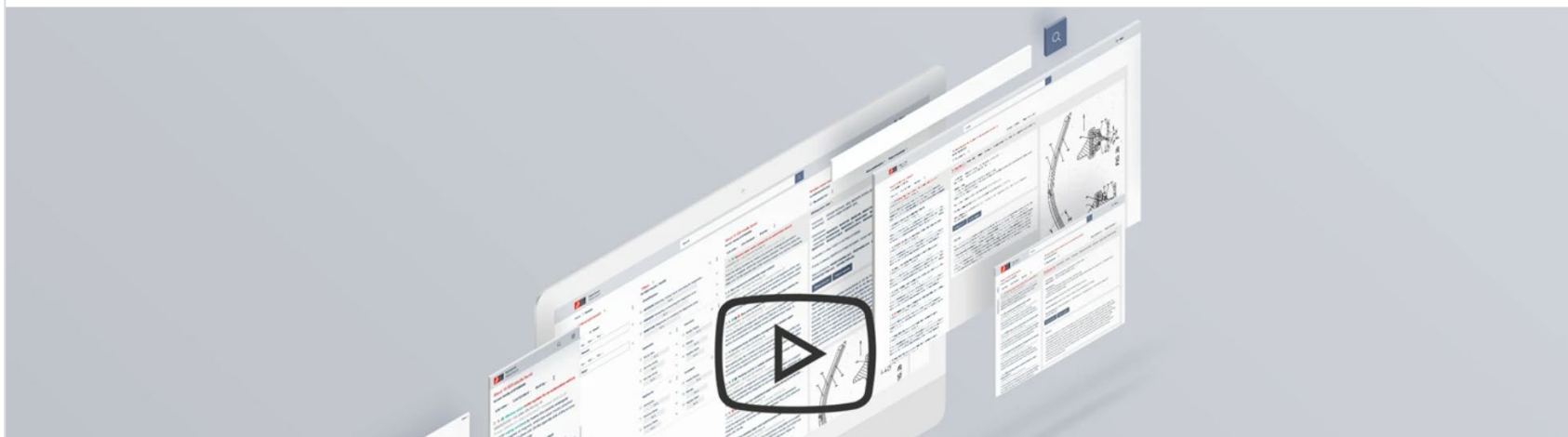


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## User support

### Useful examples

Have a look at the [search](#) and [filter examples](#).

### Espacenet videos

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### Help files and glossary

Help content with an expandable/collapsible tree of topics along with a glossary of terms used in Espacenet and in the world of patent information.

- Adjust the width of the panels by using the double-headed arrow which appears when you hover over the panel separator.
- Select and hold (on your touchpad) or right-click a help topic to open a new tab or window.
- Use the new keyword search feature to find topics of interest.



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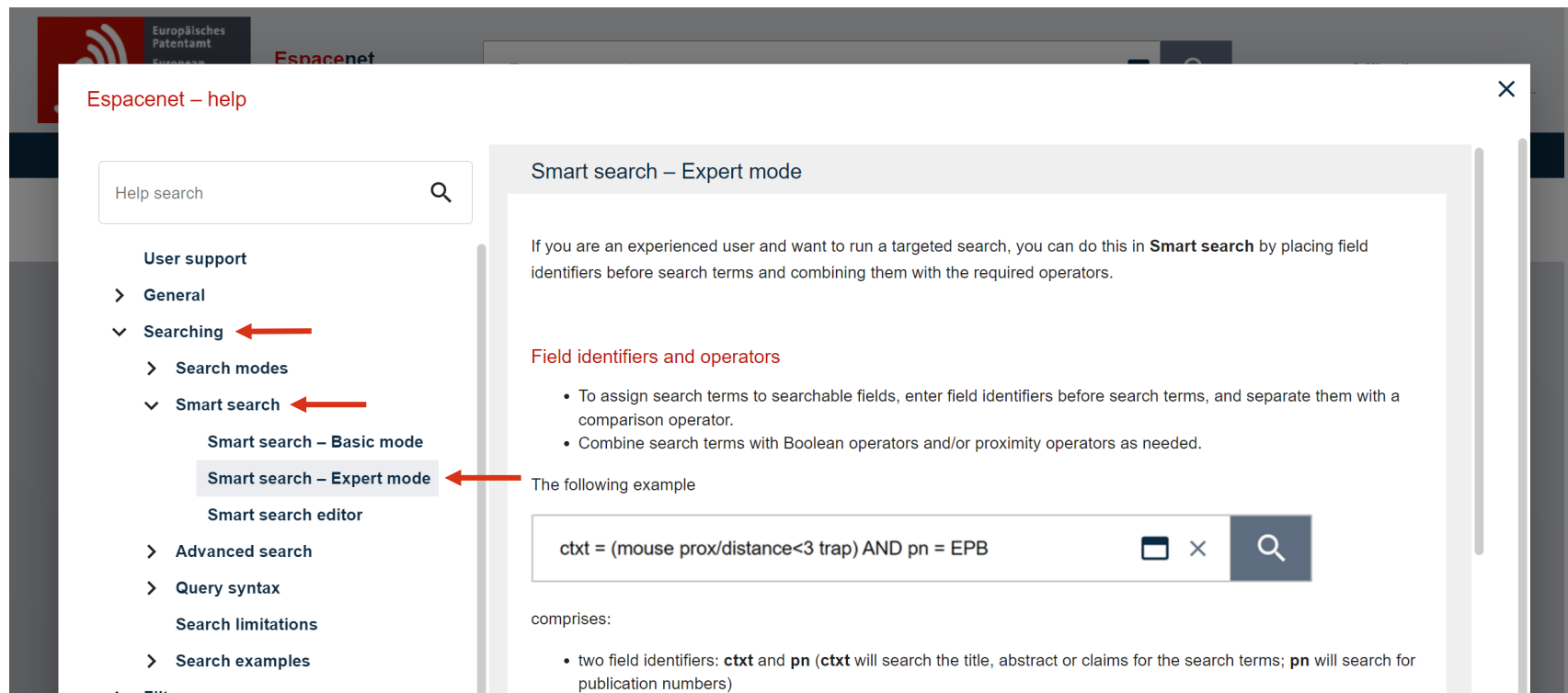
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### General

This section covers:

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<https://worldwide.espacenet.com/patent/help/smart-search> ←



The screenshot shows the Espacenet help interface. On the left is a sidebar with a search bar and a navigation menu. The main content area on the right is titled 'Smart search – Expert mode' and contains explanatory text, a list of field identifiers and operators, and a search query example.

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Help search 🔍

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    - ✓ Smart search ←
      - Smart search – Basic mode
      - Smart search – Expert mode** ←
      - Smart search editor
    - > Advanced search
    - > Query syntax
    - Search limitations
    - > Search examples

### Smart search – Expert mode

If you are an experienced user and want to run a targeted search, you can do this in **Smart search** by placing field identifiers before search terms and combining them with the required operators.

#### Field identifiers and operators

- To assign search terms to searchable fields, enter field identifiers before search terms, and separate them with a comparison operator.
- Combine search terms with Boolean operators and/or proximity operators as needed.

The following example

🔍

comprises:

- two field identifiers: **ctxt** and **pn** (**ctxt** will search the title, abstract or claims for the search terms; **pn** will search for publication numbers)

[epo.org/espacenet-pocket-guide](http://epo.org/espacenet-pocket-guide) ←

## Espacenet – pocket guide

### Searching


#### Smart search field identifiers and Advanced search fields

**Smart search** and **Advanced search** have been synchronised. The table below lists the field identifiers that you can use in **Smart search** and their equivalents in **Advanced search**.

Field identifier in Smart search in new Espacenet	in classic Espacenet	Description / Equivalent search criterion in Advanced search	Example
nftxt	-	All text fields or names	nftxt="extreme uv lithography"
ntxt	txt	Title, abstract or names	ntxt="microscope lens"
ti	ti	Title	ti="mouse trap"
ab	ab	Abstract	ab="mouse trap"
desc	desc	Description	desc=lens
claims	claims	Claims	claims=laser
ta	ta	Title or abstract	ta="laser printer"
cbxt	-	Title, abstract or claims	cbxt="milking cbxt=robots"
ftxt	extftxt	All text fields (title, abstract, description or claims)	ftxt="nanoparticles"
in	in	Inventors	in=smith
pa	pa	Applicants	pa=siemens
ia	ia	Inventors or applicants	ia=apple OR ia="ries klaus"

### Operators

Operator	Example in Smart search	Description
<b>Boolean operators</b> <sup>3</sup>	AND	pa=bosch AND pa=siemens will retrieve documents where both <b>Bosch</b> and <b>Siemens</b> are applicants
	OR	in=smith OR in=huber will retrieve documents where the inventor's name is <b>Smith</b> or <b>Huber</b>
	NOT	txt=laser NOT semiconductor will retrieve documents containing laser, while excluding documents containing <b>semiconductor</b>
<b>Proximity operators</b>	prox/distance<nr	mouse prox/distance<3 trap will retrieve documents where mouse and trap are fewer than three words apart, independently of the order in which mouse and trap appear
	prox/distance<nr/ordered	mouse prox/distance<3/ordered trap will retrieve documents where mouse and trap occur in that order and are fewer than three words apart
	prox/ordered	mouse prox/ordered trap will retrieve documents where mouse appears before trap
	prox/unit=sentence	mouse prox/unit=sentence trap will retrieve, in the first example, documents where mouse and trap occur in the same sentence
	prox/unit=sentence (EP)	cpc=(C08F220/38 prox/unit=sentence (EP)) will retrieve, in the second example, documents with the classification symbol <b>C08F220/38</b> assigned by <b>EP</b>
<b>Comparison operators</b> <sup>4</sup>	prox/unit=sentence (C08F220/06, US, EP)	cpcc=(C08F218/08 prox/unit=sentence (C08F220/06, US, EP)) will retrieve, in the third example, documents with the C-sets <b>C08F218/08</b> and <b>C08F220/06</b> assigned by US and EP
	prox/unit=paragraph	mouse prox/unit=paragraph trap will retrieve documents where mouse and trap occur in the same paragraph
<b>Comparison operators</b> <sup>4</sup>	ti all "paint brush head"	will retrieve documents containing all words entered within quotes but not necessarily in the order in which the words appear

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