

What are the patents for solar cells?

The patents that stand out in this TR are: US20040200520A1 (Metal contact structure for solar cell and method of manufacture), US20050016585A1 (Manufacturing a solar cell with backside contacts), US20060130891A1 (Back-contact photovoltaic cells) and US20070186970A1 (Solar cell and method of fabricating the same).

What is the technological system of solar photovoltaics?

2. The technological system of solar photovoltaics The PV technological system is a power system comprises a sequence of interconnected components that work together to convert sunlight energy into electricity, utilize the generated energy, store it, or invert it (Fig. 1).

What is the technological knowledge basis of photovoltaic-thermal system?

The technological knowledge basis of this route is constituted by patents on solar cells with an integrated diode and bypass method, passing through photovoltaic panels with individually articulated concentrating elements and patents on receivers for concentration of photovoltaic-thermal systems. 5.2.4.

Are solar photovoltaics a sustainable alternative?

Against the pressing challenges of climate change and fossil fuel depletion, renewable energy sources such as solar photovoltaics (PV) are considered a clean and sustainable alternative. PV technologies have grown into a substantial field of research and development through large stocks of scientific publications and patents.

How many patents are there for solar modules?

The TR of Mechanisms for Assembling Solar Modules (Fig. 5) is made up of 35 patents, extracted from a cluster of 11,830 patents and 24,174 citations, all of them protected in the USA, and more recently protected in China, EPO, Japan, Canada and the United Kingdom (UK).

What is the IPC GI for photovoltaic patents?

As search criteria, photovoltaic (PV) patents applied from 1998 to 2017 were selected and whose classification (IPC) are related to green technologies according to the IPC Green Inventory (IPC-GI) available on the WIPO (World Intellectual Property Organization). Such IPC of PV green technologies are shown in Table 2.

: An automated system and method, which implements an electrical digital twin 5 (100), for efficient operation & maintenance and asset management of a solar pv power plant is ...

Patents. The role of renewable energy in global power generation is growing -- particularly for solar power. Thanks to increasing innovation and decreasing costs, global solar capacity has doubled from 2018 ...

New solar photovoltaic power generation patent

A solar cell manufactured from this new optical fiber has photovoltaic (PV) material integrated into the fiber to enable electricity generation from unused light, including non-visible portions of the spectrum and visible light not transmitted ...

For the generation of electricity in far flung area at reasonable price, sizing of the power supply system plays an important role. Photovoltaic systems and some other renewable ...

A solar photovoltaic power generation system is also provided. The three single-phase inverter circuits can be integrated as above Because the three DC photovoltaic assemblies on one ...

The utility model discloses a vehicle-mounted solar-energy filtering power generation device, which can improve the photoelectric conversion efficiency effectively. The device comprises ...

In conventional photovoltaic systems, the cell responds to only a portion of the energy in the full solar spectrum, and the rest of the solar radiation is converted to heat, which increases the ...

Solar energy generation vs. capacity; Solar power generation; The cost of 66 different technologies over time; The long-term energy transition in Europe; Thermal efficiency factor applied to non-fossil energy sources to convert them ...

Downloadable (with restrictions)! The objective of this article is to identify the technological development of photovoltaic cells by the analysis of patents. The Derwent Innovations Index ...

By incorporating smart new solar panel technologies, the efficiency and lifespan of solar PV arrays are significantly boosted. This advancement promotes a more proactive and responsive method of ...

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