

Why are photovoltaic cell patent registrations important?

Photovoltaic cell patent registrations are a valuable data set in the analysis and diffusion of PV technology and R&D activities. The dynamics of PV R&D activity is considered high, documented in a large increase in PV patent documents .

What are the patents on photovoltaic cells?

The patents on photovoltaic cells are concentrated in the area of semiconductors for the conversion of solar radiation into electric energy, in the area of generators for the direct conversion of light energy into electric energy and in the area of solar panels adapted for roof structures.

How has photovoltaic technology developed over the last 30 years?

Photovoltaic technology has developed rapidly over the last thirty years. The main activities of photovoltaic patents began in the late 1950s and the main photovoltaic patent assignees at that time were involved in the space business . Patent data has been widely used in technology assessment and forecasting ,,,

Are photovoltaic cells a technological development?

There is a prominence of deposited patents for polymer-based photovoltaic cell technologies, carbon nanostructures, III-V compounds, CdTe and amorphous silicon cells. The objective of this article is to identify the technological development of photovoltaic cells by the analysis of patents.

Does PV technology have a role in patenting?

The technical review of these patents has shown the global continuous efforts for improving PV technologies and addressing their technical challenges. Taken together, the results show that the PV technological system has been deeply connected with patenting activities since its emergence in the past century.

What is the relationship between the PV sector and patenting activities?

Besides its growing global trends, the significant relation between the PV sector and patenting activities can further be illustrated by two observations: The first is the numerous radical PV inventions that were initially filed in patents (e.g. Siemens reactor, HIT cells, and DSSC).

Justia Patents Rechargeable Electrical Source Of With External Connections US Patent for Flashlight with photovoltaic power source Patent (Patent # 7,670,023) ... The support 126 is ...

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 ...

Lawyers are doing brisk business as tunnel oxide passivated contact (TOPCon) solar technology moves into the mainstream. A series of patent infringement cases have been launched in the United ...

We analyze patent data (1976-2007) to find the photovoltaic technology growth trajectories. Variations of crude oil price are reflected in patent application around one year ...

Photovoltaic (PV) technology, as a low-carbon energy technology, is crucial to mitigating climate change and achieving sustainable development. China has the largest total number of PV ...

Table 3 lists the top PV patent applicants over three periods (21-year length) along with their countries and total number of patent applications. Interestingly, all actors are ...

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A global patent search identified 456 patents, with 80% of patents targeting recycling processes for silicon-based modules, cell metals, polymers, glass, or devices. Companies with the most patents were identified ...

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