Research on patented battery anti-static technology

Can patent data be used to analyze the development of battery technology?
Hence,patent data is widely appliedto analyze the development of battery technology [16]. For instance,the European Patent Office cooperating with the International Energy Agency provided key insights into technological innovation in batteries and electricity storage based on patent analysis [6].

Why do we need a patent for battery technology?
The amount of the application of a certain patent represents the degree of social concern for the battery technology to some extent. It can be found that the R&D activities of the battery technology in current are mainly concentrated in three areas: fuel batteries, lead-acid batteries, lithium ion batteries.

What is patent inventor in EV battery technology?
Analysis of R&D cooperation in EV battery technology Patent inventor refers to the specific application of the patent. The applicant and the inventor of patent can be one or more,thus there is such a situation which the applicants or the inventors are in common.

Why is patent analysis important for EV battery design?
Patent analysis is a powerful means to inform technology life cycle and forecast upcoming innovations. To date,only a handful of research have quantitatively analysed and compared battery assembly in the EV field,resulting in a lack of information to discern the battery layout.

How to find patents for lithium ion batteries?
Because the term 'lithium-ion batteries' was not recorded until the commercialization of Li-ion batteries by Sony, we combined the formula of TS = (cell% OR secondary batter* OR batter* OR accumulator OR rechargeable batter*), IPC code and keywords to search for patents, and then manually added these patents in corresponding battery levels.

What is battery technology?
Battery technology is one of the key technologies of electric vehicle (EV) development,which the advancement and maturity influence the industrialization of EVs directly.

The paper adopts the technology of Natural Language Processing (NLP) to analyze patent documents and reveal the advances and opportunities for developing solid-state battery technology by constructing the patent Information Relation Matrix (IRM). This paper finds innovation activities in developing solid-state batteries have been increasingly ...

Based on the data of the patent application on the EVs battery technology, this paper intends to analyze from the overall trend of the patent, distribution of the patent type, multidisciplinary technology system, and the

cooperation of research and development (R& D), etc. Then results show that the main future trend is the lithium ion battery ...

Electric vehicle (EV) technology innovators are leading the race to find high performance battery materials. Here"s a breakdown of current research and development efforts, and a look at how to patent different battery technologies. Lithium-ion -- Goodenough for a Nobel Prize

Using carefully elaborated strategies to identify publications relating to batteries, this study provides data to discuss the critical balance to strike between investments in research and the more innovation-related aspects.

Unfortunately, high-capacity and high-power battery technology is still in its infancy [[30], ... it will promote the thermal runaway warning technology. Therefore, future research should focus on the following prospects to enhance the safety and reliability of lithium-ion batteries. 1. Optimization and improvement of intelligent algorithms in BMS technology. ...

Solid-state batteries (SSBs) hold the potential to revolutionize energy storage systems by offering enhanced safety, higher energy density, and longer life cycles compared ...

Electric vehicle (EV) technology innovators are leading the race to find high performance battery materials. Here"s a breakdown of current research and development efforts, and a look at how ...

Primary and secondary batteries are explored, with examples such as alkaline and nickel-metal hydride batteries, highlighting the characteristics of each. Additionally, lithium-ion batteries...

*Tailored exclusively for Li-ion Battery manufacturing embedded with Patented Green (GDP) Technology Total Solution Provider for Dry Rooms with Environment Control Equipment incorporating Patented DryPurge (GDP) Technology Green ® * Critical for Lithium Battery Manufacturing There are four critical legs on which the lithium battery production space stands ...

Here"s a breakdown of current research and development efforts, and a look at how to patent different battery technologies. Lithium-ion -- Goodenough for a Nobel Prize. The development of more commercially successful battery technology seems to be just around the corner. Our endless pursuit of better cathodes, anodes and electrolytes is leading to creative chemical and ...

In this contribution, patent analysis is applied to systematically study battery assembly from cell to module and pack, and figure out their technology life cycles aiming at revealing their development status. It is indicated that the cell level has entered the maturity stage, whereas module and pack levels are still in the growth stage. In ...

While lithium-ion batteries have come a long way in the past few years, especially when it comes to extending

the life of a smartphone on full charge or how far an electric car can travel on a single charge, they"re not ...

Dynamic and static analysis of the battery box structure of an electric vehicle To cite this article: Na Yang et al 2019 IOP Conf. Ser.: Mater. Sci. Eng. 688 033082 View the article online for ...

As the drive towards renewable energy use gains pace, there has been an increase in global patent filings relating to battery technology. While lithium-ion batteries currently dominate the battery market, they have several disadvantages.

Recently, extensive study has been dedicated on the manufacturing of EVs and their power batteries to comprehensively address these advantages. This research analyzes ...

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