

The battery swapping mode is one of the important ways of energy supply for new energy vehicles, which can effectively solve the pain points of slow and fast charging methods, alleviate the impact from the grid, improve battery safety, and ...

To systematically solve the key problems of battery electric vehicles (BEVs) such as "driving range anxiety, long battery charging time, and driving safety hazards", China took the lead in putting forward a "system engineering-based technology system architecture for BEVs" and clarifying its connotation.

New energy electric vehicles will become a rational choice to achieve clean energy alternatives in the transportation field, and the advantages of new energy electric vehicles rely on high energy storage density batteries and efficient and fast charging technology. This paper introduces a DC charging pile for new energy electric vehicles. The DC charging pile ...

The recycling and utilization of retired traction batteries for new energy vehicles has attracted widespread attention in recent years and has developed rapidly. This article reviews the ...

Suitability of Each Topology for Different Applications and Battery Systems. Centralized BMS Topologies; Suitability: Centralized BMS is suitable for smaller battery systems with relatively simple architectures is commonly used in applications where cost and simplicity are essential factors, such as small electric vehicles, portable devices, and low-power energy ...

A Battery-Like Self-Charge Universal Module for Motional Energy Harvest Puchuan Tan, Qiang Zheng, Yang Zou, Bojing Shi, Dongjie Jiang, Xuecheng Qu, Han Ouyang, Chaochao Zhao, Yu Cao, Yubo Fan, Zhong Lin Wang, and Zhou Li\* DOI: 10.1002/aenm.201901875 Recent years, wearable and portable elec-tronics have experienced tremendous development.

Nowadays, EVs are exhibiting a development pattern that can be described as both quick and exponential in the automotive industry. EVs use electric motors powered by rechargeable batteries, rather than internal combustion engines, to drive the vehicle [[1], [2], [3], [4]]. This makes much more efficient and produces zero tailpipe emissions, making a cleaner ...

Here, a battery-like self-charge universal module (SUM) is developed, which is able to efficiently convert mechanical energy into electrical energy and store it in one device. An integrated SUM consists of a power management unit and an energy harvesting unit. Compared to other mechanical energy harvesting devices, SUM is more ...



## Universal module battery for new energy vehicles

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As the market demand for battery pack energy density multiplies progressively, particularly in the context of new energy pure electric vehicles, where a 10% diminution in vehicle overall mass ...

Lithium-ion batteries (LIBs) with relatively high energy density and power density are considered an important energy source for new energy vehicles (NEVs). However, LIBs are highly sensitive to temperature, which makes their thermal management challenging. Developing a high-performance battery thermal management system (BTMS) is crucial for the battery to ...

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EVs have entered in the era of Li-ion batteries, and the battery integration mode has played a critical role in determining driving range and safety of EVs. Further increase of battery energy density principally relies on innovations of cell, module and packs. This work analyses the patent trends by recording patent quantity with a function of ...

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