

Why is the box structure of the power battery pack important?

Abstract: The box structure of the power battery pack is an important issue to ensure the safe driving of new energy vehicles, which required relatively better vibration resistance, shock resistance, and durability.

What is a power battery pack box?

The power battery pack box is the core component of the BEV. The power battery pack provides energy for the whole vehicle, and the battery module is protected by the outer casing. The battery pack is generally fixed at the bottom of the car, below the passenger compartment, by means of bolt connections.

How does a battery pack box work?

The battery pack box is bolted to the chassis structure of the vehicle through the lifting lugs and fixed to the chassis of the vehicle. The internal structure of the battery pack box is shown in Fig. 8. The structure includes the upper-pressure rod, the upper-pressure cover, and the inner frame.

Where is the battery pack box arranged?

The battery pack box of the target vehicle is arranged under the chassis, below the floor of the passenger compartment, disassembled from the electric vehicle. The appearance structure of the box is shown in Fig. 3. After removing the upper cover, the battery pack module is presented, and the structure is shown in Fig. 4.

Why do new energy vehicles need a power battery pack structure?

In the structure of new energy vehicles, the power battery pack structure is the most important power component, thus, it needs to be designed with a safer and more reasonable structure to meet the requirements of shock resistance and durability.

Can aluminum and high-strength steel connect a battery pack box?

Li et al. analyzed the connection between aluminum and high-strength steel, expounded on the current status of the connection technology of new energy vehicle battery pack boxes, and put forward the point of view that the connection-related issues such as matrix damage, interface failure, and long welding cycle need to be further studied.

BYD Battery-Box Premium HVS 10.2 - Box 4 batterie al litio per accumulo con Base e BCU 409 VdC da 10.24 kWh Battery-Box Premium HVS - composta da 2 a 5 HVS moduli collegati in serie per ottenere una capacit#224; utilizzabile da 5.1 a 12.8 kWh. - ...

The utility model discloses a new energy vehicle power battery box which comprises a battery base, a battery top cover and a battery, wherein the battery is movably arranged in the battery base....

paper considers the box structure of the battery pack for the new energy vehicles as an example, in which the

foam aluminum material is adopted for structural lightweight design to realize...

The box structure of the power battery pack is an important issue to ensure the safe driving of new energy vehicles, which required relatively better vibration resistance, shock resistance, and durability. Its structural safety is closely related to the life safety and property safety of drivers and passengers, which is an important index to ...

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Through the modeling and simulating of the battery pack of an electric car, the deformation and acceleration after loading are evaluated, which provides a reference for the optimal design of the...

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The invention discloses an installation box for a new energy automobile battery pack, which comprises a battery box body, wherein a battery nest base is installed in the battery...

The first phase of a new energy power and energy storage battery manufacturing base in southwest Chi. . Biz / Economy. CATL's Guizhou battery base starts operation. Xinhua. 21:56 UTC+8, 2023-10-27 0. The first phase of a new energy power and energy storage battery manufacturing base in southwest China, funded by China's battery ...

The battery boxes not only carry the battery in the static situation but also bear the dynamic loading, such as vibrate, emergency brake, make a turn etc., so the basal box need reinforcing rid to benefit the

In this work, the structure of the new energy vehicle is optimized by a finite element model, and the side crashworthiness applied to the electric vehicle is analyzed by means of a rigid column. To this end, the key components of the box structure of the battery pack box were optimized base on the application of foam aluminum material, which ...

The invention relates to the field of new energy automobile equipment, and particularly ...

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This paper takes a BEV as the target model and optimizes the lightweight design of the battery pack box and surrounding structural parts to achieve the goal of improving vehicle crash safety and lightweight, providing participation in the application of new materials in new energy vehicles.

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