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New energy battery structure pack

Overview

What is a power battery pack design scheme?

Through weight reduction and structural optimization, an innovative power battery pack design scheme is proposed, aiming to achieve a more efficient and lighter electric vehicle power system.

How a battery pack is designed?

With reference to the existing models on the market, the battery pack structure of the model is designed according to the main parameters of the model, and a simplified electric vehicle battery pack model is established by Creo and the material information is determined.

What are the components of an electric vehicle power pack?

The main components of an electric vehicle power pack referenced in this paper include the battery cell, battery module, battery management system (BMS), cooling equipment, electrical system, and various structural components: the upper cover, lower box, bracket, etc. [10, 11, 12].

How many units are there in a battery pack model?

Through the finite element analysis software ANSYS Workbench on the electric vehicle battery pack model of Q235 steel material given a mesh cell division, finally, a model grid was constructed containing 275953 units and 546089 nodes.

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This work proposes a multi-domain modelling methodology to support the design of new battery packs for automotive applications. The methodology allows electro-thermal ...

The integrated structure design and battery pack power, from the monomer to the system, are the main influencing factors. Therefore, by choosing suitable high-energy ratio ...

The battery pack is the most important element for the efficient operation of modern electric vehicles. The improvement of the battery pack top cover for new energy

vehicles ...

This article discusses the changes in battery pack design that impact which cell chemistries can be used in a commercially viable way. An overview is given for future adoption ...

The development of new energy vehicles, particularly electric vehicles, is robust, with the power battery pack being a core component of the battery system, playing a vital role ...

In previous studies, many battery pack box structures had large volume and complex structures. By establishing models in virtual prototypes and simulating and analyzing ...

The integrated structure design and battery pack power, from the monomer to the system, are the main influencing factors. Therefore, ...

In the past few decades, research on battery pack boxes has mainly focused on functionality, and now there has been research on other aspects of performance, such as ...

Abstract - As core components of new energy vehicles, the anti-collision performance and weight of power battery packs directly affect vehicle safety and driving range. ...

The proposed cold-resistant new energy vehicle battery pack structure (CRNEV-BPS) framework optimizes cold-resistant battery pack design through initial parameter setup, and hybrid ...

In the past few decades, research on battery pack boxes has mainly focused on functionality, and now there has been research on ...

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 ...

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