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The thermal expansion stress caused by the entropy heat and the ohmic heat can lead to the battery"s lifetime reduction and even thermal safety issues. Herein, based on the coupled electrochemical model, the LIB"s thermal behavior and thermal stress distribution at a 1C discharge rate are simulated and analyzed. The results show that ...

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Progress in the higher requirements for battery thermal management system (BTMS), a new refrigerant-based BTMS of electric vehicles (EVs) is proposed and analyzed, especially designed for high ...

Multi-objective optimization of liquid-cooled battery thermal management system with biomimetic fractal channels using artificial neural networks and response surface methodology. Zhiguo Tang Yi Xiang Man Li Jianping Cheng Qinsheng Wang

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This paper presents the design of a 10:1 downscaled multi-transmit coil powered dynamic wireless electric vehicle charging (DWEVC) system for traffic intersection application with overall system efficiency of 88% at the wireless gap of 10.5cm. Wireless charging electric vehicles (EV) is the development trend of EV.

As an important part of battery management system(BMS), accurate estimation of the state-of-health (SOH) can monitor the aging level and ensure efficient operation of lithium-ion battery. In this paper, a novel SOH estimation method based on an enhanced incremental extreme learning machine was proposed. This method can simplify the neural network ...

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Firstly, an equivalent circuit model of EV wireless charging system with dual side LCC compensation networks is established. Also, power loss and system efficiency expressions are...

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This paper explains the step-by-step design of the compensation network for a 7.7 kW wireless charging system (power class WPT2), which is composed of standardized coils, and an optimized double-sided LCC compensation network is designed.

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