

How does Hyundai Mobis cool a battery?

However, as battery cells generate intense heat during ultra-fast charging, optimising cooling structures at the module level is crucial. Hyundai Mobis has integrated PHPs directly between individual battery cells, enabling rapid heat transfer to cooling blocks.

Are heat pipes the new EV battery technology?

Heat pipes are not new; they've been widely used to cool high-performance electronics like computer CPUs and smartphones. Hyundai Mobis has adapted proven technology to meet the unique challenges of EV batteries.

What is a PHP battery cooling system?

Constructed from aluminium alloy and refrigerant, the PHP system stabilises battery temperatures during rapid charging, ensuring a safer and more efficient process. By securing world-class battery cooling technology, Hyundai Mobis aims to solidify its position as a leader in the future mobility market.

How can liquid cooling improve battery thermal management systems?

The performance of liquid cooling methods is constrained by the low thermal conductivity of the coolants, especially under high charging and discharging conditions. To enhance the effectiveness of battery thermal management systems (BTMSs), it is crucial to utilize fluids with improved thermal conductivity.

Can a phase change material improve the thermal management of lithium-ion batteries?

In order to enhance the thermal management systems (BTMSs) of lithium-ion batteries, Zheng et al. developed a phase change material (PCM) system featuring fins. This innovative design effectively lowered the temperature of the electric grid compared to configurations lacking fins.

Can a hybrid cooling system improve EV battery performance?

Developing hybrid cooling systems for next-generation EV batteries: Hybrid cooling systems that combine liquid cooling with CPCMs and nanoenhanced PCMs present a promising research direction. Studies should explore new configurations and materials that enhance cooling efficiency without adding excessive mass or energy consumption.

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Hyundai Mobis aims to secure world-class battery cooling technology and commercialize it to enhance its competitiveness in the future mobility market.

Analysis of cooling technology of power battery of new energy vehicles. To cite this article: Zijin Zhang

2023 . J. Phys.: Conf. Ser. 2649 012004. View the article online for ...

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