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Title: Phase change energy storage intelligent system

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Recent advancements in PCESMs have opened up opportunities for their extensive use in many industries, providing inventive solutions for effective energy storage, ...

In a recent issue of *Angewandte Chemie*, Chen et al. proposed a new concept of spatiotemporal phase change materials with high super-cooling to realize long-duration storage and intelligent ...

Integrating a carbon dioxide energy storage system (CES) with an integrated energy system (IES) can significantly enhance renewable energy utilization, reduce carbon emissions, ...

Latent heat thermal energy storage (LHTES) represents a promising and sustainable solution for long-term energy storage. Phase change materials (PCMs) play a ...

Artificial intelligence (AI) is increasingly being integrated into thermal management systems that use phase change materials (PCMs) to enhance energy efficiency and temperature control.

This research explored sustainable phase change materials (PCMs) for latent heat thermal energy storage systems, leveraging data-driven machine learning models.

This study provides a comprehensive review of the utilization of artificial intelligence (AI) technology in phase change material (PCM) energy storage. The review primarily focuses ...

To heighten the efficiency of energy transfer for mobile heating, this research introduces the innovative concept of modular storage and transportation. This concept is ...

Abstract: Thermal energy storage (TES) technology relies on phase change materials (PCMs) to provide

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high-quality, high-energy density heat storage. However, their cost, poor structural ...

Phase change storage technology attracts a lot of research on it by virtue of its superiority, and the development momentum is strong.

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