

In order to study the character of heat storage and temperature regulation, a mathematical model of the thermal performance of an ideal passive energy...

The objective of this study is to prepare a highly adjustable ester phase change material (PCM) and further optimize its cold storage properties using a simple and controllable ...

The use of Phase Change Material (PCM) as a cold accumulator in refrigeration contexts leads to better food safety, food security and energy management...

Heat preservation performance of the battery in winter is studied, at the same time heat preservation characteristics under different working conditions and convection heat ...

The growing demand for energy and the necessity to enhance the efficiency of heat exchangers have triggered numerous studies aimed at improving convec...

Seasonal storage of solar thermal energy through supercooled phase change materials (PCM) offers a promising solution for decarbonizing space and water heating in winter.

These methods, considering their unique features and practical needs, are typically grouped into two categories: passive heat storage and active heat storage. As ...

. Preservation of Two Alstom HRSGs and Balance of Plant Equipment Sterling Energy successfully completed the management of the program it developed for the long-term storage ...

1. Heat preservation systems with solar energy can face challenges due to several reasons: 1) Insufficient sunlight availability, 2) Inefficient solar collectors, 3) Storage ...

The latent thermal energy storage (LTES) using phase change material (PCM) is able to improve the efficiency of power plants. However, the convectional TES using constant ...

This study focuses on the battery pack passive heat preservation strategies under a frigid environment (-30 °C), exploring the main factors affecting the heat dissipation of ...

In addition to the application in thermal energy storage, excellent heat transport properties enable SiC/paraffin a promising candidate in thermal management of electronic ...

A high-performance envelope is the prerequisite and foundation to a zero energy building. The thermal

conductivity and volumetric heat capacity of a wall are two ...

This paper proposed an innovative theory of designing the thermal insulation and heat storage of the CSG that divided into independent heat collection-release system, ...

If you're skimming this article, chances are you're either an engineer tired of thermal inefficiency, a builder hunting for next-gen insulation, or a climate warrior obsessed with energy storage.

The role of energy storage is to resolve the time-scale mismatch between supply and demand, which plays a key role in high-efficiency and low-carbon energy systems. Based ...

Recent developments in solar-powered refrigeration systems and energy storage methods for on-farm preservation of fruits and vegetables

This discussion includes properties and structures of gas hydrates, the current theory for self-preservation, the economics of gas hydrates for energy storage and ...

This study presents a new method for sustainable cooling systems using a hybrid refrigeration system powered by hybrid renewable energy sources. The s...

The gypsum-based heat storage and preservation material was prepared by mixing the prepared paraffin/expanded perlite shape-stabilized PCM and gypsum. Scanning ...

Extreme ambient temperatures pose a significant challenge to the safe and stable operation of lithium-ion batteries. However, most existing battery thermal management solutions focus on ...

Food preservation is one of the most neglected pillars of food security in humanitarian context. In particular, few preservation practices for both raw and cooked food ...

Then, the application of phase change heat storage technology in different fields is discussed, including building energy saving, thermal management of electronic equipment, ...

Thermal energy is the most common way of energy in life, and the refrigerant is to complete the cold storage and heat preservation through thermal energy storage. Thermal energy storage in ...

This article presents a comprehensive review of thermophysical heat storage combining sensible heat and latent heat storage, to exploit the available sensible heat when ...

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Energy storage and heat preservation

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