

This paper presents a review of the storage of solar thermal energy with phase-change materials to minimize the gap between thermal energy supply and demand. Various types of systems ...

A novel heat transfer structure was designed to improve the heat transfer rate of the heat exchanger. To address the intermittent and unstable characteristics of solar energy, the combination ...

In this research, a comprehensive performance test bench for solar thermal utilization system using a controllable heater to substitute different levels of solar input was established. The test bench is not ...

In this paper, we have overviewed the research conducted to date on phase change materials (PCMs) for photothermal power collection and storage, especially their applications as ...

This article designs a high-altitude border guard post that can fully utilize the heat absorbed by solar collectors to continuously store thermal energy during the day and stably release ...

Utilizing phase change materials with high energy density and stable heat output effectively improves energy storage efficiency. This study integrates cascaded phase change with a...

Therefore, the combination of a solar-collector system and a phase-change energy-storage technology is used to achieve the goal of storing energy during the day and discharging heat at night.

Phase change materials can be applied to various solar energy systems for prolonged heat energy storage, which is relatively sound as the solar energy is discontinuous and is ...

A combined solar phase-change thermal-storage heating system is proposed, wherein erythritol is used as the phase-change material (PCM) used to fill the thermal-storage device, and the ...

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