Solar energy cross-season heat storage and cooling

This study integrates cascaded phase change with a cross-seasonal heat storage system aimed at achieving low-carbon heating.

According to the climate characteristics and indoor load demands in such regions, a cross-seasonal energy storage compound heating system composed of solar energy, step-change...

The design of this system is centered on an integrated control strategy that synchronizes the solar collector loop, the energy storage loop, and the heating load loop to improve overall efficiency.

This paper reviews thermochemical heat storage technologies and systems with emphasis on systems involving solar energy utilization in buildings. The studies are reviewed based on used ...

Based on the cross-season solar thermal storage heating system (CSTSHS) in a typical Alpine town in the west of China, this paper analyzes and compares the electric ...

The solar-driven cascaded phase change heat storage cross-seasonal heating system proposed in this study focuses on remote plateau areas with abundant solar radiation resources, where energy ...

Studies show that the photovoltaic-thermal (PVT) heat pump soil cross-seasonal energy storage system can effectively harness solar energy to supply heating, electricity, and cooling for ...

The simulation analyzes heat distribution and temperature changes from the heat storage system to the heating terminal.

This paper proposes a novel system that integrates seawater heat pump, photovoltaic, and cross-seasonal heat storage systems for heating, cooling, and power supply.

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The cross-seasonal borehole thermal storage technology is based on the solar heat source exchanging heat with the underground soil through the buried pipe heat exchanger, transporting low-quality heat ...

In the high-cold and high-altitude area in western China, due to the abundant solar energy and hydropower resources, the use of electric auxiliary cross-season solar heat storage ...

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