Characteristics of solar energy cross-seasonal heat storage

The main problems restricting the development of solar heating systems are the low energy density and instability of solar energy. The problems of seasonal mism.

In this article, the authors applied a CSHSHS in a typical town in the Sichuan West Plateau and analysed and compared three operation strategies: heating storage priority control ...

Finally, an in-depth analysis of the operational characteristics was conducted for the no thermal storage, year-round full-zone thermal storage, and various cross-season zonal heat storage modes.

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 cross-seasonal heat ...

The dynamic charging/discharging performance of the seasonal solar thermal energy storage system has been simulated and analyzed by using the real weather data and the practical ...

This study examines different thermochemical thermal energy storage (TES) technologies, particularly adsorbent materials used for seasonal heat storage in solar-powered building systems.

This system employs a stepwise solar energy utilization strategy, achieved through modifications in thermal storage tank arrangement and connection methodology. The performance of ...

The annual heat storage of the system is 61717 GJ, the annual heat release is 6218 GJ, and the heat storage efficiency reaches 93 %. The total power consumption is 4298 GJ, which is 88 ...

The system"s efficiency is improved through cascade storage and the release of solar energy. The energy storage density is improved through the deep coupling of daily energy storage and cross ...

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