Solar soil heat storage across seasons

The proposed similar model will be used to analyze the heat transfer and heat storage characteristics of soil heat storage unit and to optimize the heat storage parameters.

Warm-temperature seasonal heat stores can be created using borehole fields to store surplus heat captured in summer to actively raise the temperature of large thermal banks of soil so that heat can ...

For the first time in the northern Qinling foothills, this research quantifies the coupling between soil heat flux and surface solar radiation across different time scales, as well as the mutual ...

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 ...

The plant is based on the operation of solar thermal collectors connected to a seasonal double U-pipe vertical Borehole Thermal Energy Storage (BTES) in order to address ...

In this paper, based on computational fluid dynamics (CFD), a three-dimensional model of the thermal and humidity environment of a solar greenhouse is established, and the indoor ...

This document describes a study of a low-cost seasonal solar soil heat storage system used for greenhouse heating. The system aims to store solar energy ...

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

In this paper, on the basis of validation with experiments, a numerical model was established using FLUENT to simulate the heat storage characteristics of the soil in Chongqing.

Abstract: A seasonal solar soil heat storage (SSSHS) system applied in greenhouse heating has been designed

and introduced. The system consists of solar ...

Web: https://www.voxverse.biz