Niamey Solar Air Conditioning Design

What is the new design of solar air-conditioning system?

The new design is based on the coupling between solar chimney and solar air-conditioning system. The waste heat of solar chimney is recovered in order to be used to regenerate desiccant dehumidifier and to drive adsorption chiller.

What is the coupling between solar chimney and solar air-conditioning system?

A new idea, based on the coupling between solar chimney and solar air-conditioning system, is elaborated. The desiccant dehumidifier and the adsorption chiller, integrated in the solar air-conditioning system, are driven by the recovered waste heat of the solar chimney.

Can a microclimate solar cooling system improve human thermal comfort?

This research introduces a microclimate solar cooling system to enhance human thermal comfortand reduce electrical grid energy-based consumption. A novel solar photovoltaic thermoelectric air conditioner (SPVTEAC) for local air conditioning of a 1.0 m 3 compartment was experimentally examined under several interior cooling loads.

What is the COP of a solar air conditioner?

The COP of the air conditioner is estimated to be 1.14at a PV current of 4.28 A and air flowrate of 14.40 m 3 /h. Random vector functional link approach was employed to model the solar air conditioner. White whale optimizer was utilized to explore the optimal structure of random vector network.

The proposed design uses renewable and clean energy (solar energy instead of fossil energy) and permits to ensure an efficient and low carbon emission air-conditioning (thermal comfort and air with ...

Therefore, this project focuses in the design and construction of a air conditioner which runs on alternate current but with the help of a photovoltaic system. conditioning system integrated ...

The simulation of air streamlines and air temperature distribution in the conditioned room is carried out to evaluate the ability of such a design of solar air-conditioning system to provide thermal comfort ...

ABSTRACT : The conventional air-conditioning system uses refrigerant that harms the environment and depletes the ozone layer. The commonly used refrigerants are CFC"s and HFC"s. ...

Niamey Solar Air Conditioning Design This work proposes a sustainable and original design for an air-conditioning system with adsorption chilling and desiccant dehumidification. The ...

PowerVault Technologies - Summary: Discover how solar-powered air conditioning systems are transforming Niger"s urban and rural landscapes. This article explores the technology, benefits, and ...

Conceived with the objective of re-introducing traditional forms by adapting them to new functions and of using traditional materials, the project also exploits the use of solar energy for mechanical air ...

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This work proposes an original design for a solar air-conditioning system with adsorption chilling and desiccant dehumidification. The proposed design permits to ensure thermal comfort in ...

This research introduces a microclimate solar cooling system to enhance human thermal comfort and reduce electrical grid energy-based consumption. A novel solar photovoltaic ...

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