
An evaluation of photovoltaic solar cell (PV) thermal regulation via a hybrid cooling system of flat heat pipes (HP) coupled with phase change materia...

This study aimed to investigate the performance of the combined solar cooling/heating system using a Photovoltaic Thermal collector (PVT) for residential applications.

Fig. 1 illustrates the PV solar thermal system consisting of frame, glass cover, solar cells, and three layers of the wall. The degradation of the photovoltaic module performance ...

The water-based cooling system was found to increase the solar cells performance higher than the air based cooling system. Dubey and Tiwari [5] designed an integrated ...

For an industrial facility powered by ten solar panels, the implementation of a cooling system was anticipated to enhance the overall efficiency by 14.3 % in the scenario without ...

Photovoltaic panel conversion generates heat that reduces the energy efficiency and lifetime of the panel. A photovoltaic panel cooling strategy by a sorption-based ...

Rooms Technical Handbook comes in. It is structured in such a way that it is easily accessible even to those readers w. o are new to each technical aspect. The most important topics ...

These findings highlight the effectiveness of passive cooling strategies, particularly fin-based cooling, for enhancing the efficiency and ...

The research introduces an innovative process employing the cell liquefaction cycle for LAES, utilizing surplus cooling capacity to maintain CPV cells at optimal ...

Ye et al. developed an electrothermal model that evaluates solar cell performance under different passive cooling conditions, including situations where multiple cooling ...

This study proposes a novel integrated heliostat-based solar thermal power generation system coupled with an absorption refrigeration cycle, employing high initial heat ...

Google Scholar Ali, E. S. et al. Cost analysis for solar-powered adsorption desalination-cooling system utilizing improved Maxsorb III adsorbents under Egypt weather ...

Cooling technology performance is represented by the coefficient of performance (COP), which is defined as units of cooling derived from ...

Green rooftops, which absorb and release heat, or passive solar architecture, which maximizes natural light and airflow, can be examples ...

Solar cells (SCs) convert sunlight directly into electricity via the photovoltaic (PV) effect, paving a fossil fuel-free way to meet the increasing demand for renewable sources. ...

Cooling technology performance is represented by the coefficient of performance (COP), which is defined as units of cooling derived from each unit of electrical and/or thermal energy input. The ...

Along with keeping the solar cells and other semiconductor technologies cool, the water can be repurposed for irrigation, washing, ...

Solar thermal cooling based on absorption/adsorption cooling is generally utilized commercially for medium to large size (> 100 kW) cooling capacity ...

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