

In this context, taking advantage of the peculiar combination of high-temperature structural and optical properties shown by Ultra-High Temperature Ceramics (UHTCs), the potential ...

PCM container geometry and orientations are practical passive heat transfer enhancement techniques in the long-term compared to adding nanoparticles and attaching fins. This ...

Various types of ceramics and ceramic matrix composites had been assessed for their applicability in solar thermal receivers, such as alumina, zirconia, mullite, silicon carbide, silicon ...

Optical, magnetic, and electronic ceramics have revolutionized the modern field of communication and information technology. Ceramic technology is still advancing at a high pace with ...

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Concentrated solar thermal technology (CST) using solid particles as integrated thermal absorptance, transport, and storage medium offers higher storage densities and lower storage costs. In this ...

This study used the SWOT analysis method from a macro perspective to explore China's ceramic industry development in the present situation and the advantages and disadvantages, and in the ...

In this study, sintered bauxite particles, (Al<sub>2</sub>O<sub>3</sub>) matrix/(Al<sub>2</sub>O<sub>3</sub>) ber, mullite matrix/mullite ber. ceramic matrix composites, plasma-sprayed alumina, and mullite ceramics are ...

It finds application in medium temperature solar applications. The eutectics, a combination of organic and inorganic PCM, is suitable for various temperature ranges. The inclusion ...

The work explored the possibility of using glass critical thermistors based on vanadium dioxide to improve reliability and prevent electrothermal overloads in photovoltaic components of solar cells. ...

The developed solar air chimney is composed of a novel accumulation material that allows for sensible heat storage. Solar radiation can heat the accumulation layer during the day and ...

Among these, the ASTEP (Application of Solar Thermal Energy to Processes) project represents a significant innovation, designed to deliver thermal energy up to 400 °C for industrial ...

Initially, transparent ceramics were mainly used in solid-state lasers, but a recent survey has indicated that potential applications of transparent ceramics include solid-state lighting, ...

Additionally, the porosity and pore morphology of the porous AC were characterized. Detailed studies on the effects of varying SiO<sub>2</sub> and Al<sub>2</sub>O<sub>3</sub> ratios on the thermal properties of porous ...

Thus, the objectives of this work are to develop a numerical model for analyzing the heat transfer and fluid flow of the solar receiver, and to apply it for scale-up and optimization of the ...

The major findings are: (1) low-cost ceramic filters are effective POU devices, (2) modification of ceramic filters improves performance, and (3) more robust multicomponent removal ...

**Abstract** The energy and exergy analysis of a single slope solar stills using ceramic type rectangular and circular magnets in the basin was carried out in this study and compared to ...

ZrB<sub>2</sub>-based ceramics are taken as case study to detect any correlation amongst composition, porosity, mean grain size, roughness and spectral selectivity. In addition, the effect of surface variation, ...

The energy and exergy analysis of a single slope solar stills using ceramic type rectangular and circular magnets in the basin was carried out in this study and compared to ...

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