Phase change material

?? Next-Generation Fin-Integrated Nano-Enhanced Phase Change Material Solutions with Porous Copper Foam for Advanced Thermal Management of High-C-Rate Li-Ion Batteries ? ...

His current research interests include heat transfer with applications to the thermal management of electronic devices, heat pipes, phase change material, and solar thermal desalination ...

Phase-change material (PCM)-based photonic devices provide non-volatile control over phase and amplitude. This can potentially transform large-scale photonic integrated circuits by ...

The phase change enthalpy of the MEPCMs reached 152.7 J/g. The matrix material was prepared by reacting polyethylene glycol (PEG) with 3-isocyanatopropyltriethoxysilane (IPTS), followed ...

Abstract Inspired by the adhesion and peeling process of Boston Ivy, a novel dual-layer composite photothermal phase change material (cPCM-LIG) is proposed, integrating laser-induced ...

But there is a new contender on the scene: In the Optimus project, researchers at Fraunhofer ISE in Freiburg are working with partners from industry to develop phase change material (PCM) ...

??? ?????? ?? Reversible optical switching of highly confined phonon-polaritons with an ultrathin phase-change material ????????????----??????????? ...

A single-layer phase change material packed bed can achieve two-stage heat discharging process, while a dual-layered phase change material packed bed can form a cascade thermal ...

Other works explored improving phase change material (PCM)-based thermal systems using fin structures and nanomaterials. Parach et al. [28] performed a 3D numerical study on a ...

Inverter-equipped heat pumps allow for increased energy efficiency. However, air conditioning (AC) systems often operate at low load ratios below where inverter control is effective, which ...

The resulting aluminum-foam-based phase-change composite material (AFPCM) combines the high energy absorption characteristics of aluminum foam with the thermal energy storage ...

Incorporating an appropriate phase change material (PCM) into the system can reduce temperature fluctuations, thereby preserving food quality for a longer duration and enhancing ...

To address the synergistic challenge of regulating phase change properties and optimizing flame-retardant

performance in phase change materials (PCMs), this study employs a brominated molecular engineering approach to concurrently ...

?? Phase-Change Material-Integrated Dual-Mode Thermal Management Janus Films with Enhanced Radiative Cooling and Solar Heating ?????????????????? ...

Phase-change material (PCM) has a high potential to cool the drilling fluids for ultra-deep oil/gas wells and geothermal wells to ensure efficient drilling and resource exploitation. Because PCM ...

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