Special Issue

Phase Change Materials: Characterizations for Uses

Message from the Guest Editor

Phase change materials have long been used to control heat exchange or store thermal energy. The idea was to take advantage of the latent heat of melting or crystallization and thus of the variation of thermodynamic properties at phase changes. Despite the numerous works presenting these materials and their configuration, it must be admitted that the “true” physical and especially thermodynamic characteristics are not always convincingly determined. It is also time to justify the very significant efforts made to increase the thermal conductivity of PCMs. Under what circumstances is this increase beneficial (and therefore cost-effective) when the kinetics of fusion is essentially controlled by the amount of latent heat and the external heat exchange conditions? Of course, it can always be interesting to explore the properties and advantages of more sophisticated PCMs such as different types of encapsulation, slurries, gas hydrates, eutectics, peritectics, solid solutions. Similarly, supercooling and crystallization kinetics can be developed. Prof. Dr. Emeritus Jean Pierre Dumas

Guest Editor

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Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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