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Nota di contenuto	Introduction to Nano Enhanced Phase Change Material -- Overview of PCMs -- Synthesis, characterization, and stability of NEPCM -- Influence of nanoparticles on thermophysical properties of PCMs -- Nanostructure–based colloidal suspension for thermal enhancement for NEPCM. .
Sommario/riassunto	This book provides information on thermal energy storage systems incorporating phase change materials (PCMs) which are widely preferred owing to their immense energy storage capacity. The thermal energy storage (TES) potential of PCMs has been deeply explored for a wide range of applications, including solar/electrothermal energy storage, waste heat storage, and utilization, building energy-saving, and thermal regulations. The inherent shortcomings like leakage during phase transition and poor thermal conductivity hamper their extensive usage. Nevertheless, it has been addressed by their shape stabilization with porous materials and dispersing highly conductive nanoparticles. Nanoparticles suspended in traditional phase change materials enhance the thermal conductivity. The addition of these nanoparticles to the conventional PCM enhances the storage. In this book, the history of

Nano Enhanced Phase Change Materials (NEPCM), preparation techniques, properties, theoretical modeling and correlations, and the effect of all these factors on the potential applications such as: solar energy, electronics cooling, heat exchangers, building, battery thermal management, thermal energy storage are discussed in detail. Future challenges and future work scope have been included. The information from this book can enable the readers to come up with novel techniques, resolve existing research limitations, and come up with novel NEPCM, that can be implemented for various applications.