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Descrizione fisica	1 online resource (190 pages)
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Nota di contenuto	1. Introductory Chapter: Phase Change Material as Energy Storage Substance -- 2. Technology in Design of Heat Exchangers for Thermal Energy Storage -- 3. Techniques for the Thermal Analysis of PCM -- 4. Review of the Use of the Carbon-Based Phase Change Material Composites in Battery Thermal Management for Electric Vehicles -- 5. Phase Transformation Processes in the Active Material of Lead-acid Batteries -- 6. Application of Semi-Circular Micro-Channel Heat Sink with Phase Change Material for Cooling of Electronic Devices -- 7. The Effect of Laundering on the Physical and Thermal Properties of Phase Change Textile Materials -- 8. Germanium Telluride: A Chalcogenide Phase Change Material with Many Possibilities -- 9. Photo-Induced Displacive Phase Transition in Two-dimensional MoTe <sub>2</sub> from First-Principle Calculations.
Sommario/riassunto	The intermittent nature of solar energy sources is the greatest challenge to the broad acceptance of this technology. The storage of thermal energy presents a workable option for addressing this issue. When it comes to the storage of thermal energy, latent heat storage units (LHSU) that make use of phase change materials (PCMs) are more desirable than sensible heat storage. In the context of a large increase in the demand for energy, PCMs are an essential class of thermal energy storage materials that contribute to the sustainable growth of both the economy and society. It stores large amounts of heat in the form of latent heat at a constant temperature. This promising

technique has already been applied with great success in a variety of applications like solar appliances, buildings, battery thermal management, electronic cooling, waste heat recovery systems, textiles, and more. This book presents an in-depth discussion on PCMs, the current state of PCM technology, and a detailed description of their prospective applications.

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