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Collana	Energy, Environment, and Sustainability, , 2522-8366
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Soggetti	Renewable energy resources Energy storage Thermodynamics Heat engineering Heat transfer Mass transfer Renewable and Green Energy Energy Storage Engineering Thermodynamics, Heat and Mass Transfer
Lingua di pubblicazione	Inglese
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Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	1. Distributed Polygeneration Using Solar Energy - A Future Sustainable Energy System -- 2. Integration of Solar Air-Heaters with Pebble Bed Thermal Energy Storage -- 3. Direct Absorption Solar Thermal Technologies -- 4. Solar Updraft Tower - A potential for future renewable power generation: A computational Analysis -- 5. Solar Thermal Energy: Use of Volumetric Absorption in Domestic Applications -- 6. Solar Thermal Energy Storage Using Novel Phase Change Materials -- 7. Effect of Reflector Absorptivity on Radiative Shape Factor/Heat Exchange in Case of Solar Receiver Collection Systems -- 8. Investigating Temperature Distribution of a Solar Cavity-Receiver Wall Using Finite Element Method -- 9. Thermal and materials perspective on the design of open volumetric air receiver for process heat applications -- 10. Solar Assisted Solid Desiccant – Vapor Compression Hybrid Air-Conditioning System -- 11. Solar Food Processing And Cooking Methodologies -- 12. Manufacturing techniques of Perovskite

solar cells -- 13. Solar thermal energy storage -- 14. Water-Lithium Bromide Absorption Chillers for Solar Cooling -- 15. Estimation of potential energy savings by algorithm based roller shade control for visual comfort.

Sommario/riassunto

This book focuses on solar-energy-based renewable energy systems and discusses the generation of electric power using solar photovoltaics, as well as some new techniques, such as solar towers, for both residential and commercial needs. Such systems have played an important role in the move towards low-emission and sustainable energy sources. The book covers a variety of applications, such as solar water heaters, solar air heaters, solar drying, nanoparticle-based direct absorption solar systems, solar volumetric receivers, solar-based cooling systems, solar-based food processing and cooking, efficient buildings using solar energy, and energy storage for solar thermal systems. Given its breadth of coverage, the book offers a valuable resource for researchers, students, and professionals alike.
