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Nota di contenuto	Installations of Solar Systems in Remote Areas of Himachal Pradesh, India: Challenges and Opportunities -- Solar Thermal-Powered Adsorption Chiller -- TEWI Assessment of Conventional and Solar Powered Cooling Systems -- PCM-Metal Foam Composite Systems for Solar Energy Storage -- TiO2: Yet to be Challenged as the Photo-anode Material in Dye-sensitized Solar Cells -- p-type Dye Sensitized Solar Cells: An Overview of Efficiency Limiting Factors -- Conducting Polymers as Cost Effective Counter Electrode Material for Dye-sensitized Solar Cells -- Interfacial Materials for Organic Solar Cells -- Solar Irradiance Variability and Distributed Photovoltaic Power Generation in an Urban Valley -- Review on PCM application for cooling

load reduction in buildings -- Analysis of Passive Design Strategies for Maintaining Thermal Comfort inside an Office Room using PMV-PPD Models -- Carrier Selective Contact (CSC) Silicon Solar Cell -- Direct Photo-Thermal Energy Storage Using Nanoparticles Laden Phase Change Materials -- Theoretical investigation of wicked-solar still with water film cooling on the inclined glass cover -- Global use of solar energy- Issues and challenges -- Synthesis of f-Carbon Nanoparticles for Harnessing of Solar Energy in Direct Absorption Solar Collector -- Jawaharlal Nehru National Solar Mission: A Critical Analysis -- Thermodynamic analysis Zeolite/Water, Activated carbon/Methanol and Activated carbon/Ethanol based Adsorption cooling systems -- Design and Development of a Concentrated Solar Water Heating System -- Heliostat Field Design for 100 kW and 1 MW Thermal Output for Industrial Applications -- Fabrication and thermal performance evaluation of Metastable supercooled liquid PCM based Heat pack -- Exergy analysis of solar assisted microwave oven for baking application -- Multi-objective Performance Optimization of a Ribbed Solar Air Heater -- Solar Powered Water Desalination Systems -- Sustainable Development Goals in context to BRICS Countries.

Sommario/riassunto

This book covers challenges and opportunities related to solar-energy based systems. It covers a wide variety of topics related to solar energy, including applications-based systems such as solar thermal systems that are focused on drying, desalination, space cooling, refrigeration, and processing; recent advances in solar cells (DSSC) and photovoltaics; technologies for storage of energy (both sensible heating as well as latent heating); and the design of concentrated solar receivers. The information is presented in the context of the overall global energy utilization, and the role of solar energy has been highlighted. The contents of this book will be of interest to researchers, professionals, and policymakers alike.