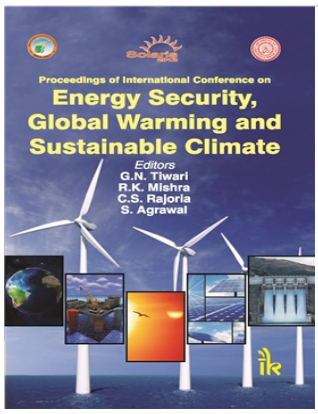
Book Information Sheet



Proceeding of International Conference on Energy Security, Global Warming and Sustainable Climate , 1/e

G.N. Tiwari, C.S. Rajoria, R.K. Mishra & S. Agarwal

2012 | 760 pp | Hardback | ISBN: 9789382332039 | Price: 2,495.00

About the Book

The focus areas of SOLARIS 2012 conference were Solar radiation modeling and day lighting, Solar thermal (ST), Photovoltaic (PV), Renewable energy resources (RES), Climate change (CC), Food processing industries/rural development (FRD), Life cycle cost analysis of renewable energy sources (LC). We received over 130 abstracts and 90 full research papers from scientists from leading teaching and research institutes across the world. The best 15 papers selected by guest of honors will be published in Journal of Fundamentals of Renewable Energy Applications (www.Ashdin.com/journals/jfrea)

The SOLARIS 2012 proceedings would be of great help to students, teachers, researchers, scientists, engineering and users involved in the area of renewable energy in general and solar energy in particular and other related research areas. The manufacturers and industrialists would also find this proceedings to be useful and beneficial in the context of renewable energy, solar energy and its applications.

Salient Features

- A compilation of 89 articles, the book focuses on solar thermal, photovoltaic, climate change, etc.
- The articles are contributed from not only the reputed institutions of India but also from many other regions of the world.
- Each chapter begins with an abstract and keywords, and ends with a conclusion followed by references.

Table of Contents

- Exergy Analysis of Waste Heat Based Combined Rankine Ejector-Absorption Refrigeration System (OTH-28)
- Analyzing Thermal Insulation Effect of new Transparent Thin Films (OTH-30)
- 4-E (Energy-Exergy-Environment-Economic) Analysis of Stand-alone Solar Thermal Power Plants and Solar-Coal Hybrid Power Plants (PV-1)
- Experimental Study of the Performance of Two Different Types of Photovoltaic Thermal (PVT) Modules under Singapore Climatic Conditions (PV-2)
- Energy Efficient Solar Street Lightning System for Rural Areas (PV-3)
- A Comparative Study for a Building Integrated Semitransparent Photovoltaic Thermal (BISPVT) System Integrated to Roof With and Without Duct (PV-4)
- Mathematical Model for Computing Maximum Power Output of a PV Solar Module and Experimental Validation (PV-5)
- Thermal Modelling of Hybrid PVT Water Heating System using Glass to Glass PV Module (PV-6)
- TiO2 Coated Pebbles for Solar Photocatalytic Treatment of Dyebath Wastewater (PV-7)
- Techno-Economic Analysis of Stand-alone Solar Fed AC Vs DC System (PV-12)
- Analysis of Different Type of Hybrid Photovoltaic Thermal Air Collectors: A Comparative Study (PV-13)
- Photovoltaic Thermal (PV-T) Systems: Overview, Recent Achievements and Challenges (PV-15)
- Effect of Panel Size on Solar Photovoltaic Refrigeration System (PV-16)
- Full-scale Experimentation of a Roof and Façade BIPV Component in Naturally Ventilated Double-skin Configuration (PV-17)
- A Review on Hybrid Photovoltaic Thermal (PVT) Solar Systems (PV-18)
- Performance Evaluation of Hybrid Photovoltaic-Thermal (PVT) Greenhouse Dryer: An Experimental Study (PV-19)
- “Risks of Solar PV Manufacturers and Developers in India” (PV-21)
- Study of Hybrid Photovoltaic Thermal (HPVT) Solar Water Heater at Constant Collection Temperature for Indian Climatic Conditions (PV-22)
- Field Experience of 1.2 kWp PV Array System in New Delhi: Performance Indices Evaluation (PV-24)
- A Case Study to Fulfil the Requirement of Low Income Group (LIG) House by Installing PV Panel (PV-25)
- A Photovoltaic Maximum Power Point Tracker: An ANN Approach (PV-28)
- Full-scale Experimentation of Building Integrated Photovoltaic Component for Naturally Ventilated Double-skin Configuration (PV-29)
- Life Cycle GHG Emissions of 200 kWp Grid Connected Solar Photovoltaic System in India (PV-31)
- Comparison of Performance Analysis of a Hybrid Photovoltaic Thermal Double and Single Pass Air Collector Using Artificial Neural Network (PV-32)
- Performance Evaluation of Conventional Hybrid Photovoltaic Thermal (PVT) Mixed Mode Dryer (PV-33)
- Performance Evaluation of Building Integrated Glass to Glass Photovoltaic Module Fitted Greenhouse Dryer (PV-34)
- Development and Testing of Hybrid Photovoltaic-Thermal (PVT) Integrated Solar Dryer: Techno-economic Analysis (PV-36)
- Thermal Modelling and Experimental Validation of Hybrid Photovoltaic Thermal (HPVT)-Biogas Plants (PV-39)
- Optimal Battery Sizing for a given Rated Power of Stand-alone PV System for Different Mode of Operation (PV-40)
- Conductivity and Photoluminescent Studies of Some PPVs (Conducting Polymers) for its Use in Organic Solar Cells (PV-41)
- Carbon Credits Earned by Hybrid Photovoltaic Thermal Array (PV-42)
- Evaluation and Utilization of Kitchen Waste under Anaerobic Digestion for Biogas Production (RES-2)
- Sustainability of Utilizing Bullock Power through Mechanical Gear System for Various Agricultural Post Harvest Operations in Reducing Non-renewable Energy Requirements (RES-3)
- Performance Evaluation of EAHE, Skylight and SAPV Integrated IIT Mudhouse (RES-5)
- Evaluation of Carbon Credit Earned by Different Designs of Solar Stills (RES-8)
- Characterization of Water Quality of the National River Ganga at Varanasi, India (RES-11)
- Influence of Water Temperature and Dissolved Oxygen to the Growth of Catla (Catla catla) and Rohu (Labeo rohita) in Greenhouse (RES-13)
- Energy Balance for Bituminous Road for Harnessing Renewable Energy Source (RES-14)
- RET Diffusion Model for Techno-Economics Feasibility (RES-15)
- Drying Behavior of Chilli under Open Sun and Greenhouse Conditions (ST-2)
- Sustainable Use of Producer Gas for a Diesel Engine on Dual Fuel Mode of Diesel-cum-Producer Gas in Performing Various Agricultural Operations by Engine Run Machines (ST-3)
- Thermal Modeling and Performance Evaluation of an Earth to Air Heat Exchanger Integrated with a Greenhouse (ST-4)
- Theoretical Parametric Study of Evacuated Tubes Integrated Single Slope Solar Still (ST-7)
- Solar Drying Technology: Potentials and Developments (ST-10)
- Validation of the Basis of Experimental Simulation of Heat Transfer between A Building and Surrounding Earth (ST-12)
- Evaluation and Validation of Daylighting Model for Inverted Z-Shape Roof Type Mudhosue (ST-13)
- High Temperature Desalination by Compound Parabolic Concentrator-tubular Solar Still Coupled with Single Slope Solar Still (ST-14)
- Thermodynamic Analysis of a Solar Driven Absorption Refrigeration System (ST-15)
- Thermal Performance of Double Slope Floating Cum Titled-Wick Solar Still with the Effect of Water Flowing Over the Glass Cover (ST-16)
- Heating
- Cooling Potential of Dome-shaped House for Cold Climate of Srinagar (India) (ST-17)
- Mathematical Modeling of a Solar Crop Dryer with Biomass Back-up Heater: A Case for Solar-Biomass Hybrid Systems (ST-18)
- Experimental Studies on Phase Change Material based Thermal Energy Storage System for Solar Water Heating Applications (ST-21)
- Solar Thermal Power Plant Simulator (ST-23)
- Experimental Investigation of Convective flow Boiling in the Absorber Tube of the Linear Fresnel Reflector Solar Thermal System (ST-24)
- Role of Condensing Covers and Performance of a Double Slope Solar Still (ST-25)
- The Effect of Water Depth and Glass Cover Inclination on Thermal Efficiency of Domestic Type Fiber Reinforced Plastic Made Single Slope Solar Still (ST-26)
- Experience with Horizontal Earth Air Heat Exchanger in Zogota Colombia for Air Conditioned in Scholar Spaces (ST-28)
- Comparison of Cavity Receivers With and Without Mouth Blockage of Different Shapes and Sizes used in Paraboloid Dish Applications (ST-30)

- Parametric Based Performance Comparison of Passive and Active Solar Distillation Systems using the Concept of Solar Fraction (ST-31)
- Simple Drying Model for Performance Prediction of Solar Dryer (ST-32)
- Hybrid Photovoltaic-Thermal (HPVT) Solar Water Heating System: An Experimental Study (ST-33)
- New Solar Still with the Suction of Wet Air: A Solution in the Isolated Areas (ST-34)
- Exergy Analysis and Carbon Credit Earned from Double Slope Active Solar Still under Natural Circulation Mode (ST-36)
- Evaluation of Specific Energy Consumption during Drying of Cylindrical Potato Samples for Different Thickness and Loading Densities (ST-37)
- Direct Beam Radiation from Global Radiation for New Delhi (ST-38)
- Performance Analysis of a Flat-plate Solar Collectors using Al2O3
- Water Nanofluid (ST-39)
- Heat Transfer Coefficients of a Distiller: Indoor Simulation (ST-40).

About the Author

G.N. Tiwari :- G.N. Tiwari, Professor, Centre for Energy Studies, Indian Institute of Technology Delhi, Hauz Khas, New Delhi-110016

C.S. Rajoria :- C.S. Rajoria, Asst. Professor, Department of Mechanical Engineering, Engineering College Bikaner, Bikaner, Rajasthan

R.K. Mishra :- R.K. Mishra, SRF, Centre for Energy Studies, Indian Institute of Technology Delhi, Hauz Khas, New Delhi-110016

S. Agarwal :- S. Agrawal, Reader, School of Engineering of Technology, IGNOU, Maidan Garhi, New Delhi-110016