

With the growing influx of solar power on the demand side, the estimation of photovoltaic (PV) power generation plays an increasingly significant role in bus load ...

As the main component of the grid-connected power generation system, solar grid-connected inverters complete the tracking problem of the maximum power point in the ...

In conventional photovoltaic systems, the cell responds to only a portion of the energy in the full solar spectrum, and the rest of the solar radiation is converted to heat, which increases the ...

As an important part of a new type of renewable energy, solar power generation has a well-developed prospect and is valued by all the countries in the world. The research ...

1 INTRODUCTION 1.1 Motivation. Distributed generation (DG) has been a focus of research owing to its rapid expansion in scale and the rapid development of generation technologies [].To achieve decarbonization targets, ...

Liangzhong YAO, Professor | Cited by 4,472 | of China Electric Power Research Institute, Beijing | Read 176 publications | Contact Liangzhong YAO

Solar power, also known as solar electricity, is the conversion of energy from sunlight into electricity, either directly using photovoltaics (PV) or indirectly using concentrated solar power. ...

Figure 8 shows the actual solar PV power generation compared to the predicted solar PV power from different models tested in this study on the three datasets; Shagaya Poly-SI, Shagaya ...

Thermoelectric materials convert waste heat into electricity, making sustainable power generation possible when a temperature gradient is applied. Solar radiation is one potential abundant and eco-friendly heat source for this application, ...

Efficiency harvesting of solar energy for liquid-to-vapor phase transition has a broad range of applications, from small stand-alone solar energy convertor for water ...

Carbon-based black materials exhibit strong solar absorptance ($\alpha_{\text{solar}} > 0.90$), which play key roles in transforming solar energy into available power for solar-thermal, thermophotovoltaic ...

The bladeless turbine has a promising future as a new power generation system. To explore the operating characteristics of the turbine, a bladeless turbine experimental platform with an ...

Solar energy - Electricity Generation: Solar radiation may be converted directly into solar power (electricity) by solar cells, or photovoltaic cells. In such cells, a small electric ...

The data from July 2018 to May 2019 were used for the arithmetic analysis, and the PV power generation, measured meteorological information, and NWP data from 05:00 to ...

DOI: 10.1109/tste.2021.3123337 Corpus ID: 240109744; Intra-Hour Photovoltaic Generation Forecasting Based on Multi-Source Data and Deep Learning Methods ...

To overcome the above problems, this work comprehensively considers the wind velocity, solar irradiance, wind direction, atmospheric pressure, humidity, ambient ...

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