

Solar power generation is a promising and sustainable source of energy that has gained significant attention in recent years due to its potential to reduce greenhouse gas emissions and mitigate ...

It offers critical insights into a solar power plant's daily performance, considering factors, such as sunlight, panel efficiency, and weather-related fluctuations. Daily power ...

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This paper proposes a model called X-LSTM-EO, which integrates explainable artificial intelligence (XAI), long short-term memory (LSTM), and equilibrium optimizer (EO) to reliably forecast solar power ...

Solar photovoltaic (PV) power generation has strong intermittency and volatility due to its high dependence on solar radiation and other meteorological factors. Therefore, the ...

Land dedication for solar array construction must compete with other requirements. For every 40-60 MW produced, utility-scale solar power facilities need around 1 km² (250 acres) of land. One option is to build big ...

Solar PV power generation profiles of each day of January 2017 obtained from the proposed solar PV power prediction model. The average and maximum forecast solar PV power and the time with maximum ...

Solar photovoltaic (PV) power generation is the process of converting energy from the sun into electricity using solar panels. Solar panels, also called PV panels, are combined into arrays in a PV system. PV systems ...

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