Artificial solar photovoltaic power generation

This study proposes the Extreme Gradient Boosting-based Solar Photovoltaic Power Generation Prediction (XGB-SPPGP) model to predict solar irradiance and power with minimal error.

All these factors are discussed along with the results after applying the artificial intelligence techniques on photovoltaic systems, exploring the challenges and limitations considering ...

The integration of XAI with machine learning and deep learning technologies has markedly advanced the field of solar power generation. The proposed SPXAI model effectively tackles the unpredictability ...

Solar irradiation, ambient and module temperature are key factors and important variables to estimate PV power generation. Performance of developed models was evaluated and compared to ...

This study provides a paradigm for an artificial intelligence-driven hybrid solar power system, including optimized solar tracking with advanced ...

At present, the photovoltaic power generation prediction model based on machine learning and deep learning has gradually become mainstream, which can effectively improve prediction accuracy and ...

This study proposes a prediction model that integrates CNN and DNN to forecast photovoltaic solar power generation. The results from this study indicate that the proposed model ...

This study proposes a hybrid solar power system aided by AI that incorporates high-performance solar tracking, intelligent PV technologies, and blockchain ...

In this paper, we explore the impact of AI technology on PV power generation systems and its applications from a global perspective. Central to the discussion ...

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The spread of artificial intelligence (AI) over diverse industries provides many benefits as well as challenges. The inner working of an AI system still behaves.

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