Title: Extreme solar power generation
Generated on: 2026-03-05 14:02:01

Transitioning to a renewable energy future necessitates the development of climate-resilient solar PV infrastructure to ensure the reliability and sustainability of solar electricity amid the ...

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.

Photovoltaic (PV) installations have rapidly and extensively been deployed worldwide as a promising alternative renewable energy source. However, weather anomalies could expose them to ...

Here, we systematically assess the global climate-induced impact on the ELP events for solar PV and wind power in a warmer future.

This paper analyses the safety, reliability, and resilience of PV systems to extreme weather conditions such as wind storms, hail, lightning, high temperatures, fire, and floods.

With a high penetration of renewable energies, scenario generation for wind and solar power is essential for the operation of modern power systems. Beyond the typical scenarios, extreme ...

Since 1993, international participants have collaborated on a diverse range of joint projects, all aimed at advancing the application of photovoltaic technology for the conversion of solar energy into electricity.

Photovoltaic power plants are complex generation facilities and are installed and operated in highly variable environmental conditions. In this paper we.

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