

# Photovoltaic power generation and wind power generation pattern

What is wind-photovoltaic combined power generation forecasting model based on multi-task learning?

Conclusion This paper introduces a wind-photovoltaic combined power generation forecasting model based on multi-task learning. The proposed model takes into account the spatio-temporal correlation between wind and photovoltaic power. The MIC method is firstly used to analyze the correlation between wind and photovoltaic power.

Is there a time correlation model for wind power and photovoltaic output?

A time correlation model for wind power and photovoltaic output is proposed by analysing the randomness of wind power and photovoltaic output in detail.

What is the wind and PV power generation potential of China?

The wind and PV power generation potential of China is about 95.84 PWh, which is approximately 13 times the electricity demand of China in 2020. The rich areas of wind power generation are mainly distributed in the western, northern, and coastal provinces of China.

Can wind and photovoltaic power generation be combined?

However, the integration of wind and photovoltaic power generation through combined forecasting offers a comprehensive approach that takes into account their coupling relationship. By establishing suitable models and algorithms, accurate power generation forecasts for both energy sources can be achieved.

Is there a correlation between wind and photovoltaic power?

The proposed model takes into account the spatio-temporal correlation between wind and photovoltaic power. The MIC method is firstly used to analyze the correlation between wind and photovoltaic power. Then we propose a novel multi-task learning framework and loss optimization strategy.

Is there a correlation between PV power production and wind power production?

For the majority of weather patterns, we see an anti-correlation between the European mean of the PV power production and wind power production, i.e., weather patterns associated with positive anomalies in wind power production typically coincide with negative anomalies in PV power production and vice versa (Fig. 2).



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