



Overview

What is the complementary coefficient between wind power stations and photovoltaic stations?

Utilizing the clustering outcomes, we computed the complementary coefficient R between the wind speed of wind power stations and the radiation of photovoltaic stations, resulting in the following complementary coefficient matrix (Fig. 17.).

Do wind power and photovoltaic stations complement each other?

Typically, wind power and photovoltaic stations are situated at different locations, necessitating the study and analysis of wind speed-radiation complementarity across various regions. This study focuses on wind power stations and photovoltaic stations in Qinghai and Gansu provinces to explore their complementarity.

Which cluster of wind power stations exhibit the weakest complementarity with radiation?

Analysis of the matrix reveals that the 4th, 5th, 7th, and 8th clusters of wind power stations exhibit the weakest complementarity with the radiation of photovoltaic stations. In contrast, the 5th, 7th, 8th, and 10th clusters of photovoltaic stations similarly demonstrate poor complementarity with the wind speed of wind power stations.

Can wind and solar power be used in China's northwestern provinces?

In the quest to scientifically develop power systems increasingly reliant on renewable energy sources, the potential and temporal complementarity of wind and solar power in China's northwestern provinces necessitated a systematic assessment.



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