

## Kongres Container

# Coordination of wind and solar complementary construction for communication base stations



## Overview

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A communication base station, wind-solar complementary technology, applied in the field of new energy communication, can solve the problems of inability to utilize wind energy to a greater extent, inconvenience, control of fan blades, etc., so as to improve the utilization rate of wind energy, reduce the probability of damage, and increase the contact area. 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.).

How to measure complementarity between wind speed and radiation?

The Kendall CC, Spearman CC, and fluctuation coefficient are combined to construct a comprehensive measure of the complementarity between wind speed and radiation, which provides a reliable tool for quantitatively evaluating the complementary characteristics of wind and solar energy. 2. A copula-based wind-solar complementarity coefficient  $R$ .

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.

What are the complementary characteristics of wind and solar energy?

The complementary characteristics of wind and solar energy can be fully utilized, which better aligns with fluctuations in user loads, promoting the integration of wind and solar resources and ensuring the safe and stable

operation of the system. 1. Introduction.

Do water-solar-wind complementary systems work in hydropower stations?

For example, (Zhu et al., 2017) studied the operation of water-solar-wind complementary systems in typical hydropower stations in the upper reaches of the Jinsha River but did not consider constraints such as land use and investment costs.

Is there a complementarity between wind and solar energy?

Studying the complementarity between wind and solar energy is crucial for optimizing the use of these renewable resources. Multi-energy compensation systems need to consider multiple metrics, and current research relies on the correlation of single metrics to study this complementarity.

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