Abstract

Predicting the energy output of wind turbine based on weather condition

Wind energy plays an increasing role in the supply of energy worldwide. The energy output of a wind farm is highly dependent on the weather conditions present at its site. If the output can be predicted more accurately, energy suppliers can coordinate the collaborative production of different energy sources more efficiently to avoid costly overproduction. We take a computer science perspective on energy prediction based on weather data and analyze the important parameters as well as their correlation on the energy output. The weather data and the important parameters are analyzed .

Due to the fluctuation of wind power resources, large-scale wind power integration brings serious challenges to power systems. Among the existing short-term forecasting methods, the accuracy and output is not stable.