1. Wind Power Correlation Analysis Based on Mix Copula

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Abstract: Wind power is a new stochastic variable in the power system operation and dispatch, the correlation of wind power generation should be quantified to determine the variability of power flows, the system uncertainty and operational risk. This paper analyzes the characteristics of wind power first, and then improves a Mix Copula method to model the relationship between the wind power considering the correlation structure. The method constructs a Mix Copula which can describe the tail characteristic by linear weight, then uses the least square method to evaluate the parameter, the analysis results of two typical wind farms show that Mix Copula can accurately describe the correlation structure of wind power. What's more the correlation index and tail correlation index can be easily calculated based on the correlation measure theory of Copula. © 2018 IEEE.
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