新能源与分布式发电

内蒙古电网区域风电功率预测系统

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摘要：

内蒙古电网区域风电功率预测系统采用分布式结构，由数值气象预报系统和风电功率预测系统组成：风电功率预测以数值预报模式和风电功率统计预报模型为基础；数值气象预报采用MM5中尺度数值气象预报模式对风电场所在区域未来48 h不同高度的风速、风向、温度、湿度、气压和降水进行滚动预测，计算网格水平分辨率为9 km。基于相似模型理论，采用人工神经网络方法，建立了区域风电功率预测模型，实现了对单个风电场、特定区域内风电场群和全网风电功率的短期和超短期预测。

关键词：

Regional Wind Power Forecasting System for Inner Mongolia Power Grid

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Abstract:

Distributed architecture is adopted in regional wind power prediction system for Inner Mongolia Power Grid, which consists of numerical weather prediction system and wind power forecasting system. The wind power forecasting is based on numerical prediction mode and statistical forecasting model of wind power. Using MM5 mesosale numerical whether prediction mode, the rolling forecasting of wind speeds, wind directions, temperatures, humidity and air pressure at different altitudes in future 48 hours as well as precipitation in the regions where wind farms locate is performed, and the horizontal resolution of computational grid is 9 km. According to the theory of analogy model and adopting artificial neural network, a regional wind power forecasting model is built, thus the short-term and ultra-short-term wind power forecasting for single wind farm and wind farm groups within a particular region as well as for whole power grid are implemented.

Keywords:

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