

新能源与分布式发电

含双馈感应电机的风电场电压协调控制策略

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摘要:

提出了一种含双馈感应电机的风电场的面向接入点电压控制的协调控制策略。该策略中电容器组根据基于风功率预测数据的优化结果预先进行投切控制, 在此基础上, 双馈感应电机机群对风电场实时无功功率差额进行调控, 并按剩余无功功率极限比例整定各台机组的无功出力, 由此实现特定时段接入点电压控制的目标。针对实时风速扰动对所提协调控制策略进行了仿真。仿真结果验证了上述策略的正确性和有效性。

关键词:

A Coordinated Voltage Control Strategy for Wind Farm Containing Doubly Fed Induction Generators

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Abstract:

A coordinated control strategy directed to the voltage control at grid-connecting point of wind farm containing doubly fed induction generators (DFIGs) is proposed. In this control strategy, the switching of capacitor banks is pre-performed according to the optimization result based on the predicted wind power, then on this basis the real-time reactive power balance is regulated and controlled by DFIG group and according to the proportion of residual reactive power limit the reactive power output of each DFIG is set, herefrom the voltage control at grid-connecting point during specified time interval is implemented. The proposed coordinated control strategy is simulated under disturbed real-time wind speed, and simulation results show that the proposed coordinated control strategy is correct and feasible.

Keywords:

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