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风电场并网技术规定比较及其综合控制系统初探

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摘要
比较了德国、丹麦、英国和澳大利亚等国的风电场并网技术规定。主要分析比较了各国技术规定对有功功率控制、无功电压控制及频率控制等方面的异同。分析了并网规定产生差异的原因,指出了各国电网特点不同、风电所占比例不同、风电接入方式不同是造成差异的主要原因。为满足风电场并网技术规定的要求，减小风电场对电力系统的不利影响，提出了风电场综合控制的概念，设计了风电场综合控制系统的框架，提出了实现控制目标的一些设想。

关键词 风电场；并网；技术规定；综合控制

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本文作者相关文章
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Comparison of Technical Regulations for Connecting Wind Farm to Power Grid and Preliminary Research on Its Integrated Control System

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Abstract

A comparative research on technical regulations for connecting wind farm to grid in Germany, Denmark, UK and Australia are conducted. The similarities and differences of these regulations in the aspects of controls of active power, reactive power and voltage as well as frequency are compared; the reason causing the differences among these regulations are analyzed. The authors point out that the different characteristics of power grids, ratios of wind power to total capacity of power grids in each country and different connection mode of wind farm are the main reasons. To meet the need of technical regulation for connecting wind farm to power grid and reduce the detrimental effect of wind farm on power grid, a concept of integrated control of wind farm is proposed, a framework for this integrated control is designed, and some tentative ideas for implementing the integrated control are put forward.

Key words wind farm；grid connection；technical regulation；integrated control

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