

## 智能电网

### 广域相量测量技术在智能电网中的应用

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#### 摘要:

近年来,我国特高压输电技术进入了一个快速发展的新阶段,特高压试验示范工程已投入运行,三华特高压同步电网将于2012年初步建成。同时,作为下一代电网技术代表的智能电网概念正在广泛讨论中。但到目前为止,还存在大量关键技术需要深入研究。国内从2003年开始大力发展广域相量测量技术,该技术在特高压大电网的动态特性监视和动态安全稳定评估等方面具有优势和发展前景,是未来智能电网的重要基础技术之一。文章回顾了国内广域相量测量技术的发展过程和现状,最后提出了发展思路 and 需要深入研究的领域。

**关键词:** 动态安全稳定评估;自愈;智能电网;广域测量系统

### Application of Wide Area Phasor Measurement Technology in Smart Grid

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#### Abstract:

In recent years, UHV transmission technology has been entered into a new era of rapid development, especially, the 1 000 kV Jindongnan-Nanyang-Jingmen UHVAC Demonstration Project has officially entered commercial operation, and UHV synchronized network connecting North, East and Central China will be put into operation in 2012. Furthermore, the smart grid concept is being widely discussed as the route map of the next generation of electric power grids. But up to now, there are many difficulties to achieve these objectives. Since 2003, the wide area phasor measurement technology has been developed prosperously in China. The technology proposes some solutions for dynamic security and stability assessment, and it is one of the fundamental technologies in the future smart grid. In this paper, some progresses and technologies in the field are reviewed, and the author's considerations for future development of wide area phasor measurement system are presented.

**Keywords:** dynamic security and stability assessment; self healing; smart grid; wide area measurement system

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