

自动化

500 kV大跨越输电塔振动在线监测与模态分析系统

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摘要:

结合500 kV蚌埠—淮河大跨越输电塔实际工程, 设计开发了输电塔振动在线监测与模态分析系统, 该系统实时不间断采集输电塔振动、气象环境数据, 通过CDMA移动通信网络和Internet远程传输至输电线路运营单位, 实现监测数据实时显示、信号分析、在线模态参数识别等功能, 为输电塔设计、运行维护、抗灾减灾研究提供依据, 同时对开展输电塔健康状态监测、安全评估具有一定的参考价值。

关键词:

Online Vibration Monitoring and Modal Analysis System of 500 kV Long-Span Power Transmission Tower

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Abstract:

Taking actual long-span transmission tower for 500kV transmission line crossing-over Huai River at Benbu as technical background, an online vibration monitoring and modal analysis system for transmission tower is developed. The developed system can perform real-time and uninterrupted collection of tower vibration signals and weather environment data, and the collected data is remotely transmitted to operation department of power system via CDMA mobile communication network and Internet to implement such functions as real-time display of monitored data, signal analysis, online modal parameter identification and so on, thus the developed system can provide basis for design, operation and maintenance of transmission tower as well as for the research on countering disaster and disaster reduction. The developed system is available for reference to health status detection and safety assessment of transmission tower.

Keywords:

收稿日期 2009-08-18 修回日期 2010-03-10 网络版发布日期 2010-10-17

DOI:

基金项目:

国家电网公司重大科技创新专项基金资助项目(SGKJ[2007]1070)。

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