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新型电力系统电能质量分析与控制专辑主编寄语

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Editors' Letter for the Special Issue on Analysis and Control of Power Quality in New Power Systems

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随着全球能源转型加速，以高比例可再生能源、分布式发电、储能系统和智能电网为特征的新型电力系统正成为能源革命的核心载体。在推动能源清洁化的同时，也带来了显著的电能质量问题，如电压波动、谐波污染、宽频振荡等。电能质量不仅直接影响电力设备的运行性能和使用寿命，还关系到电力系统的稳定性与可靠性。为应对新型电力系统面临的电能质量问题与挑战，探索创新的分析解决方案，《电源学报》特此编辑出版了“新型电力系统电能质量分析与控制”专辑。在广大科技工作者的热情支持下，经过近半年的努力，今天终于和广大读者见面了。

本次专辑发表了共计21篇来自高等院校、行业设计院、企业等相关领域专家的文章。上海电力大学万钰锡等[1]对多变流器并网系统中的谐波耦合和并网稳定性进行了深入分析；四川大学肖先勇教授团队[2]针对目前业界关注的高压动态电压恢复器电压快速补偿策略进行了深入研究；安徽铜冠铜箔集团和湖南大学校企团队[3]采用了电能信息一体化传输技术实现了多台有源电力滤波器的均流控制，取得了很好的效果。专辑发表的文章，从不同角度梳理了新型电力系统电能质量的核心问题，总结了新型电力系统背景下的电能质量关键技术，涵盖了量测技术[1,4-5]、建模方法[6-8]、仿真与分析技术[9-12]、控制技术[2-3,13-18]、规划技术[19-20]、经济性分析[21]等新技术应用于电能质量分析与控制中的研究成果，并展望未来的研究发展方向，将会进一步促进我国电能质量领域研究的学术交流和繁荣发展。

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