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### Comprehensive Survey on Recent Trends in Optimization Methods and Different Facts Controllers-Based Power Quality Improvement System

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#### Abstract

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Power consumption has risen dramatically in the last two decades, yet power generation and transmission have been severely hampered due to limited resources and environmental restrictions. Some transmission lines are essentially charged, and system stability becomes a limiting issue in

energy transmission. A range of steady-state control problems has been addressed by flexible AC transmission system (FACTS) controllers. A FACTS is a system made up of static equipment used to transmit electrical energy via AC lines. Since the 1970s, FACTS devices have been utilized to create and improve the dynamic performance of modern power systems. This paper examines different techniques and tactics for coordinating control across FACTS controllers in multi-machine power systems in depth. The authors are certain that academics will find this survey study to identify important references in FACTS controller coordination.

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