



Special Session on Advances in Grid Energy Storages Solutions

Special Session Organizers

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Abstract

As the electric power grid is modernized to meet decarbonization and electrification goals, a significant amount of energy storage will be required to maintain grid reliability and stability. The goal of this session is to discuss recent research focused on energy storage in the electric power grid.

Special Session Topics

- ✓ Quantifying energy storage requirements associated with high penetrations of variable renewable generation
- ✓ Energy storage enabled grid controls to maintain stability with high penetrations of inverter-based resources
- ✓ Techniques for improving grid reliability with energy storage
- ✓ Power electronics designs to improve the safety and reliability of energy storage systems
- ✓ Power hardware-in-the-loop (HIL) methods for evaluating the performance of grid energy storage systems
- ✓ Hybrid energy storage systems that utilize more than one underlying storage technology
- ✓ Packetized delivery of energy enabled by energy storage
- ✓ Control algorithms for distributed energy storage
- ✓ Novel grid energy storage applications
- ✓ Energy storage valuation
- ✓ Grid forming inverters tailored for energy storage technologies
- ✓ Energy storage sizing and control in distribution networks and microgrids