

CALL FOR PAPERS



Special Session on

High-Power Converters for Power Quality Enhancement and Renewable Energy Integration



TOPIC OF THE SPECIAL SESSION

High-Power Converters for Power Quality Enhancement and Renewable Energy Integration

Outline of the session

With technology advancements in semiconductor devices, modern high-power medium-voltage drives are increasingly used in transportation, traction, steel and metals, mining, petrochemical, and other industries to conserve electric energy. On the other hand, power electronics in smart grids introduces a new viewpoint on power electronics, re-thinking the basic philosophy governing electricity distribution systems. This concept fully exploits the potential advantages of renewable energy sources and distributed generation, which should not only be connected, but also fully integrated into the distribution system in order to increase the efficiency, flexibility, safety, reliability and quality of the electricity and networks. The effort of the researchers and demand of industry have led to a rapid development of high-power converters, modulation techniques and control strategies, and practical drive configurations. In addition, traction converters at DC mains and AC mains, efficiency improvement, and new applications have been attracting many researchers and industry experts.

We encourage all researchers and engineers working in this area to submit papers to this Special Session.

Topics of interest include, but are not limited, to the following:

- ✓ Technical requirements and challenges;
- ✓ Applications of high-power resilient converters in distributed smart grids;
- ✓ Resilient converters for power quality improvement in modern power grids;
- ✓ Challenges of high-power converters in renewable energy applications;
- ✓ Emerging high-power resilient converters for electrified transportations;
- ✓ Challenges of high-power resilient converters in energy storage systems' applications;
- ✓ Reliability and resilience assessment techniques;
- ✓ High power AC drives;
- ✓ Design and optimization.

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