



8th International Conference on Clean Electrical Power

Special Session on Advances on Isolated Power-Converters for Transportation Electrification and Grid Integration

The steadily growing interest towards transportation electrification and grid integration increased the effort into the development and optimization of isolated power converters. Galvanic isolation as well as high-power density and high efficiency, are among the most sought features of modern power converters. The commercial availability of wide-bandgap devices based on SiC and GaN enabled high switching frequency operations in well-known isolated topologies like resonant converters and dual-/multi-active-bridge as well as over innovative topologies. Although isolated power converters are solidly gaining industrial maturity, topological improvements, modulation optimization, and high-performance control algorithms are still thriving fields for researchers and scholars.

In this regard, this Special Session covers innovative contributions concerning isolated power converters like, but not limited to, resonant converters and dual-active-bridge based solutions having novel control strategies, modulation techniques, niche applications, symmetric/asymmetric disposition, power switches utilization, decoupled power-flow, and so forth.

Topics of interest for publication include, but are not limited to:

- Dual-active-bridge power converters;
- Resonant converters;
- Multi-active-bridge power converters;
- Niche applications of isolated converters
- Soft-switching techniques in isolated converters;
- Isolated power converter design and cost optimization;
- Modulation and control strategies for efficient power conversion;
- Multiport isolated power converters;
- Power converters and compensation circuits for wireless power transfer;
- Reliability and redundancy in isolated power converters;
- Modular isolated power converters for smart transformers;
- Conductive/wireless chargers;
- MV level charging;

- MV level renewable and storage integration.

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