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Special Session on

"Fault identification and fault-tolerant control schemes for multi-modular power converter systems"

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Call for Papers

Multi-modular converters such as multilevel converters (for instance, modular multilevel converters, cascaded H-bridge etc.,) and multiphase converters (for example, interleaved DC-DC converters and parallel inverters etc.,) are increasingly adopted for high voltage and high power applications. Due to their modularity, reliability can be improved by incorporating additional active/inactive redundant modules in the system. To minimize the downtime due to subcomponent failures, fast fault detection and localizing along with fault-tolerant control schemes are necessary. Considering the growing applications and research activity in this area, this special section focuses on fault detection, fault localization and post-fault restoration along with fault tolerant control schemes for multilevel and multiphase converters.

Topics of interest include, but are not limited to:

- This special session aims to investigate new methods to detection and localize various types of faults in multilevel and multiphase converters with specific topics (but not limited to) as follows:
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- Fault classification methods in converters
- Fault detection, fault localization and post-fault restoration schemes for multi-modular power converter systems
- Impact of subcomponent failures on the system
- Fault tolerant control schemes for multi-modular power converter
- Sensor minimization approaches for fault detection