



8th IEEE India International Conference on Power Electronics (IICPE-2018) 13th-15th December, Malviya National Institute of Technology, Jaipur, India

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Special Session on “Modular Fault Tolerant Multilevel Converters for Medium and Low Voltage Applications”

Multilevel converters have become very popular in medium voltage applications since last few decades. Recently, it is equally applicable with significant advantages in low voltage distribution system applications as well. Some of its prominent application areas are renewable energy applications (PV/Wind/Fuel cells), ac motor drives, more-electric aircraft, electric ship propulsion, multiphase drives and traction drives, electric/hybrid vehicles etc. Researchers are trying for rapid development of different multilevel converter topologies, modulation techniques and control strategies. Among the recent multilevel converters, the modular multilevel converter is relatively new entrants into the arena with fault tolerant capability, reduction of power losses and optimized control strategies. It forms the basis for synthesis of high voltage by multiple dc sources and multiple semi-conductor switches and owns the advantages of reduced device ratings. Redundancy with fault tolerant capabilities, transformer-less structures and reduced filter requirements are the unique features of multilevel converters. Due to the complex control scheme and need to control more number of switches, demand is to upgrade the digital processor architectures and implement the industrial issues.

This special session aims to achieve new modular multilevel converter configurations, modulation strategies, control schemes and fault tolerant capabilities for better utilization of available energy sources for future demands.

Topics of interest include, but are not limited to:

- Configuration of multilevel converters, modeling and control issues
- Modulation scheme with fault tolerant capabilities and redundancy
- Fault tolerant modular multilevel converters for specific application such as renewable energy integration and medium voltage dc grid.
- Multilevel converters for grid connected utilities such as Active Power Filter, STATCOM, FACTS, HVDC, etc
- Bidirectional Power Flow Control
- Multilevel multiphase converters

Special Session Organizers:

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IMPORTANT DATES	
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