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Special Session on

"Advanced Multilevel Converters with DC Capacitors: Modulation, Voltage Balancing, and Control Strategies"

Organized by

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Call for Papers

Multilevel converters have received significant attention for improved power quality. Moreover, replacing isolated DC sources with voltage-controlled capacitors makes this technology much more appealing for the industries due to reduced cost and size. Multilevel converters have been proved to feature low harmonic content, low switching frequency, high power rating, low voltage stress, etc. Designing auxiliary circuit to make necessary paths for capacitors' currents has been investigated. However, advanced balancing techniques with interesting feature of redundant switching states are preferred to generate same voltage level, using different current paths, and balance the capacitors voltages without requiring external controllers. Thus, the voltage balancing of the DC capacitors in Multilevel Converters is a matter of importance especially in rectifiers and grid-connected applications such as battery chargers, active filters, STATCOM, DVR, etc..

Topics of interest include, but are not limited to:

- *Innovative capacitor-based topologies of Multilevel Inverters and Rectifiers*
- *Modulation methods with integrated voltage balancing techniques*
- *Auxiliary circuits for voltage balancing of DC capacitors in multilevel converters*
- *Voltage Balancing techniques of auxiliary capacitors in Multilevel Converters*
- *Voltage/Current decoupling techniques for Multilevel Converter control*

Accepted papers will be published in an IEEE proceedings volume and will be also submitted for the International Publication in *IEEExplore*