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Modular Multilevel Converters for HVDC Transmission and MVDC Distribution Systems: Topology, Control, Modulation and Applications

Guest Editor:

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Message from the Guest Editor

Multilevel converters are attractive power converter circuits for medium- and high-power applications. A DC-structure-based electric power system has recently become the most attractive solution for the expansion of high-voltage transmission and medium-voltage distribution networks, as well as the integration of renewable energy sources. Among the voltage source converter (VSC) technologies for DC electric power systems, the modular multilevel converter (MMC) is a promising and competitive technology over two- and three-level VSC topologies. The modular multilevel converter presents many advantages, such as low harmonics, low dv/dt, modularity, simple scaling, high reliability, low switching loss, no need for series connection of power semiconductors, and DC bus capacitor elimination, etc.

This Special Issue will cover all technologies and applications related to MMC. Topics of interest include, but are not limited to:

- High-voltage transmission system
- Medium-voltage distribution system
- Modular multilevel converter
- Modulation method
- Control method
- Fault ride-through
- Multi-terminal DC grid
- System balance

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Message from the Editor-in-Chief

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