28th IEEE International Conference on Industrial Technology (ICIT 2027)

Special Session on

Advanced Multilevel Power Converters: Emerging Applications and Functionalities

Organized by

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Call for Papers

This Special Session highlights recent advances and emerging innovations in multilevel power converters, emphasizing novel applications, enhanced functionalities, and advanced operating principles beyond conventional power conversion. It aims to bring together cutting-edge theoretical, methodological, and experimental contributions addressing innovative converter architectures, advanced modulation and control strategies, multifunctional operation, and integration into next-generation energy and industrial systems. Particular emphasis is placed on technologies that improve energy efficiency, power density, reliability, scalability, fault tolerance, and power quality, while enabling seamless integration with renewable energy sources, energy storage systems, electrified transportation, hydrogen technologies, DC grids, and emerging high-power applications.

Topics of interest include, but are not limited to:

- Advanced Multilevel Converter Topologies: Novel, modular, hybrid, and reconfigurable architectures, including CHB, MMC, flying-capacitor, and series-parallel configurations.
- Advanced Modulation and Control: Innovative modulation, optimization, voltage balancing, fault-tolerant control, and efficiency-enhancement techniques.
- Renewable Energy and Electrification: Multilevel converters for renewable generation, battery and hybrid energy storage systems (BESS/HESS), hydrogen technologies, electromobility, microgrids, DC grids, and solid-state transformers.
- Emerging High-Power and Multifunctional Applications: HVDC transmission, grid-forming converters, ultra-fast charging, power-to-X technologies, industrial electrification, and pulsed-power systems..

Submission Procedure:

All the instructions for paper submission are included in the conference website:
https://icit2027.ieee-ies.org/

Deadlines:

- **Special Session Paper Submission Deadline:** November 16, 2026
- **Special Session Acceptance Notification:** December 11, 2026
- **Conference Dates:** March 17–19, 2027