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Call for Papers for the Special Session on

Power Quality and Grid Support for Converter-Dominated Power Systems

Organized and co-chaired by

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Technical Outline of the Session and Topics

This special session focuses on the emerging role of power electronic converters in supporting grid operation and improving power quality in converter-dominated power systems. With the increasing penetration of renewable energy sources, electric vehicles, and distributed energy resources, maintaining acceptable power quality and stable grid performance has become a critical challenge. The session aims to explore recent advances in converter technologies, control strategies, and system-level approaches that enable converters to provide active grid support while mitigating power quality issues.

Topics of the session include, but are not limited to:

- Power electronic converters for power quality improvement in modern power systems
- Active and hybrid power filtering techniques for harmonic mitigation
- Advanced control strategies for grid-supporting converters
- Multifunctional converters providing ancillary services to the grid
- Converter-based solutions for voltage regulation and reactive power compensation
- Power quality challenges in renewable-rich and converter-dominated grids
- Integration of EV charging infrastructure and distributed resources with power quality support
- Modeling, analysis, and stability of converter-interfaced systems
- Intelligent and data-driven approaches for monitoring and improving power quality
- Industrial applications and practical implementations of grid-supporting power electronic systems.

Timeline for Authors

All the instructions for paper submission are available on the conference website. Please visit www.iecon2026.org or scan the QR code for the timeline.