



ANNUAL CONFERENCE OF THE IEEE INDUSTRIAL ELECTRONICS SOCIETY

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Special Session on

Emerging Technologies for the Next-Generation Wireless Power Transfer

Organized and co-chaired by:

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Call for Papers

Technical Outline of the Session and Topics:

Wireless power transfer (WPT) technologies, including both inductive and capacitive power transfer (IPT and CPT), have shown great potential in various applications, including but not limited to EV charging, consumer electronics, medical equipment, and underwater scenarios. However, the performance of current state-of-the-art WPT systems is still not fully satisfactory, including misalignment tolerance, freedom and flexibility of power transfer, power density, efficiency, and electromagnetic emissions, etc. Leveraging the latest wide bandgap devices, new materials, and advanced control strategy, the next-generation WPT aims at the properties of high frequency, high efficiency, high flexibility, high misalignment tolerance, and high safety/compatibility of WPT system, contributing to a more convenient, smarter, and more flexible power delivery paradigm.

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

- Multi-MHz high-frequency IPT and CPT technology
- High-Frequency high-efficiency and high-power inversion stage design based on GaN/SiC switch
- Inductive and capacitive coupler design and optimization
- Anti-misalignment WPT system design and control strategy
- Three-dimensional or omnidirectional WPT system
- Integrated and compact WPT system design
- Advanced control schemes for the WPT system.
- New magnetic materials and metamaterials improving WPT performance.
- Active and passive shielding technologies for EMI reduction
- Emerging application of WPT technologies.



Author's schedule:

Deadline for submission of special session papers

April 15, 2024

Notification of acceptance

June 10, 2024

Deadline for submission of final manuscript

July 01, 2024

Early submission is highly encouraged for early decision notifications!



All the instructions for paper submission are included in the conference website:

www.iecon-2024.org