

Annual Conference of the IEEE Industrial Electronics Society (IECON 2022)

Special Session on

“Emerging Technologies of Wireless Power Transfer for Vehicle Charging Applications”

Organized by

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Call for Papers

Theme:

Advancements in technology have expanded the use of robotic autonomous vehicles across many fields, including Automatic Guided Vehicles (AGVs), Unmanned Under Water Vehicles (UUVs), and Unmanned Aerial Vehicles (UAVs). All of these vehicles play integral roles in enhancing performance, efficiency, and safety across various applications, including military and civilian. However, the vehicles are commonly powered by batteries that have low energy storage density and thus suffer from limited recharge mileage and working time. It is a good idea to equip the vehicles with static wireless charging systems because they usually remain for some time at their end stations. Alternatively, dynamic charging systems can be facilitated to continuously recharge the vehicles, such that the vehicles enjoy a longer driving range while cutting down the battery size. Aiming to overcome the common pain point the vehicles are experiencing, i.e., short recharge mileage and working time due to low energy storage density, this special section (SS) will focus on emerging technologies of wireless power transfer for vehicle charging applications.

Topics of interest include, but are not limited to:

1	Technologies of inductive power transfer, capacitive power transfer, and microwave power transfer
2	Design of magnetic couplers, compensation circuits, and power electronics converters
3	Stationary and dynamic charging technologies
4	Modulations, modelling, communication, and control of wireless power transfer systems
5	Electromagnetic safety and foreign object detection, including metal and living objects

Good quality papers may be considered for publication in the IEEE Trans. on Industrial Electronics, subject to further rounds of review.

6	Bidirectional wireless charging systems with grid integration
7	Simultaneous wireless power and data transmission technologies
8	Navigation, Docking and Aligning technologies
9	Antenna design for microwave power transfer
10	High-frequency (MHz) inverter and rectifier technology to support light-weight power transfer

Sponsoring IES Technical Committee(s):

IEEE IES Technical Committee on **Power Electronics** <https://petc.ieee-ies.org/>

Submissions Procedure:

All the instructions for paper submission are included in the conference website: <https://iecon2022.org/>

Deadlines:

Full paper submission:	April 15, 2022
Paper acceptance notification:	June 17, 2022
Camera-ready paper submission:	July 29, 2022