Special Issue

Innovations and Challenges in Wireless Energy Transfer for Sustainable Development

Message from the Guest Editors

Key topics of this Special Issue include inductive, resonant, and radiative wireless power transfer (WPT); advancements in high-efficiency energy harvesting; integration with renewable energy sources; and applications in urban infrastructure and remote locations. Additionally, the Issue addresses technical challenges such as power loss, electromagnetic interference, system scalability, and safety concerns. Recent breakthroughs in high-frequency resonant circuits, metamaterials, and AI-driven optimization have significantly improved WPT performance.However, key challenges remain, including efficiency limitations, regulatory constraints, and material sustainability. The transition to wireless smart grids, autonomous electric vehicle charging, and self-powered IoT networks presents exciting opportunities, yet requires overcoming technical and economic barriers. This Special Issue aims to provide a comprehensive overview of the latest research and innovations, fostering interdisciplinary collaboration to drive the future of wireless energy transfer for a greener, more sustainable world.

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Message from the Editor-in-Chief

Electronics is a multidisciplinary journal designed to appeal to a diverse audience of research scientists, practitioners, and developers in academia and industry. The journal is devoted to fast publication of latest technological breakthroughs, cutting-edge developments, and timely reviews of current and emerging technologies related to the broad field of electronics. Experimental and theoretical results are published as regular peer-reviewed articles or as articles within Special Issues guest-edited by leading experts in selected topics of interest.

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