Special Issue

Emerging Technologies in Wireless Power Transfer Systems

Message from the Guest Editors

With the rapid proliferation of Internet-of-Things (IoT) and machine-to-machine (M2M) communications, a greater number of sensor nodes are required in order to collect the required information (e.g., light, ambient temperature, image, power consumption, pressure, and gas) and then send them to a master node for IoT services, such as a smart home or smart city. These sensor nodes are often powered from external batteries. Hence, it becomes a major challenge to manage the batteries of each sensing device as the number of these devices increases. Furthermore, the operating lifetime of the sensor devices is short because of the limited battery capacity. In view of this, radio-frequency (RF) wireless power transmission and harvesting emerges as a key technique for powering IoT sensor nodes because of its long distance power transmission (also known as over-the-air wireless charging). Nevertheless, there are a number of outstanding issues that need to be addressed, such as EMF safety, cross-interferences among wireless channels, low sensitivity, and low RF to DC power conversion efficiency.

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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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