



sensors



Special Issue Reprint

LoRa Communication Technology for IoT Applications

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Low-power wide-area networks (LPWANs) represent a novel communication paradigm that will replace or complement traditional cellular and short-range wireless technologies in several applications. In relation to the Internet of Things (IoT), LPWANs are expected to offer energy-efficient connectivity to a high number of low-power devices, distributed over very large geographical areas. In this context, LoRa is a promising LPWAN technology for inter-connecting billions of low-power IoT nodes. We envision that an increasing number of IoT nodes will be deployed and connected to the Internet via LoRa to enable various innovative applications in several domains, including smart cities, smart monitoring, healthcare, and factory automation. We face great practical challenges and research opportunities in the design, implementation, and evaluation of LoRa technology and its applications and system development. This Special Issue is focused on LPWAN technologies, particularly LoRa, addressing (but not limited to) the following topics: Experimental deployments and solutions for mobile scenarios or situations where devices are deployed in a wide area; Machine learning techniques for the configuration and management of LoRa-based communications; Novel physical layer design and optimization for LoRa; Novel link layer and network layer design and implementation for LoRa; Co-existence and co-operation of LoRa with other wireless technologies in ISM bands; Security aspects of LoRa.



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