Abstract

Wireless sensor networks (WSNs) design requires multi-disciplinary approach in the field of wireless communication, embedded systems, networking, digital signal processing, hardware and software engineering. Major factors to influence the WSNs design are hardware and software constraints, scalability, cost, transmission media, network topology and power consumption etc. Most of WSN nodes are battery powered. With the limited capacity of batteries to power WSN nodes, need of energy harvester or scavenger is required to harvest or scavenge energy from the environment to improve the life-time of the sensor node. The harvested or scavenged energy is converted by power converters to recharge the sensor nodes or for the storage devices. This paper gives current developments of energy harvesting technologies, power converters and storage devices proposed by various researchers in WSNs along with some open research problems.


Current Developments of Energy Scavenging, Converting and Storing in WSNs


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pyroelectric energy harvester utilizing spatial thermal gradients, in Proc. 16th International Solid-State Sensors, Actuators and Microsystems Conference (TRANSUDCERS), Beijing, pp.657-660.


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