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(57) Abstract :

Hybrid sources, such as solar and wind, have been utilized for smart renewable energy harvesting. A wireless sensor node has been developed to monitor surface water. In smart buildings, electrical energy is gathered from the combined sources of solar and wind energy. A fuzzy controller was used to select the energy sources for the harvesting process. This proposed approach introduces piezo-electric reverse electro-wetting on dielectric energy harvesting, allowing a constant DC voltage to be generated through a rectifier. A DC-DC converter has been designed to power the remote read-out sensor. The generated charge is processed by a charge amplifier, which adjusts the output voltage that is sent to the wireless receiver. The harvested DC voltage fluctuates with temperature and other external environmental factors. The harvested energy is monitored through the Internet of Things (IoT) using the proposed Enhanced EHOR (Energy Harvested Optimized Routing) algorithm.

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