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**AN Efficient QoS Based Data Packet Transmission in Wireless Sensor Networks Using OREA**

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**Abstract**

Wireless Sensor Networks (WSNs) are often used for observing physical world applications which performs the effective automation process. Sensor Networks contain numerous nodes that can sense and gather statistical data. Data gathering become obvious by sensor nodes over the sensor deployed environment. These sensor nodes function by the power source, i.e. battery. The battery has been fixed in the sensor nodes. So it is difficult to replace or remove the battery from the sensor nodes. One of the prime key design issues in the Wireless Sensor Networks is power consumption i.e. energy. When the sensed data is transmitted to the sink then sensor nodes consumes the energy from battery. Since nodes are functioning by this battery power. The proposed algorithm of Optimized Radio Energy Algorithm (OREA) provides efficient energy dissipation and data transmission to the sink is quite faster. The dimension of overall performance of a service in the WSNs is known as Quality of Service (QoS). The Quality of Service metrics traffic load and packet delivery ratio has been compared OREA with existing algorithms such as random and homogenous selection. OREA provides better QOS delivery and also prolonged battery life time in order to achieve the efficient usage of power. The simulation of MATLAB results manifested to attain the network life time has prolonged in comparison with existing algorithms.

**Keywords:**

Wireless sensor networks, IEEE 802.15.4, Quality of service, Energy, Sensor node, 6LoWPAN

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