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## Abstract

Wireless sensor networks applications have widely increased in recent years. Energy limitations have become fundamental challenge for designing wireless sensor networks. One of the important and interested features is network lifetime. Many works have been developed to maximize wireless sensor network lifetime, in which one of the important work is routing. Several attempts have been made for efficient utilization of energy in terms of energy aware routing. This paper proposes a new routing technique for maximizing the lifetime of wireless sensor networks by using Fuzzy System. Fuzzy logic system is used to determine the optimal path for sending data packets. The proposed routing technique seeks to determine the optimal route path from source to destination so that the energy consumption is balanced and minimized. The proposed routing technique is compared with classical method. Simulation results show significant increase in network lifetime when the proposed technique is used. The proposed technique proved that energy consumption is well managed.

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Computer Science

### **Index Terms**

Wireless

### **Keywords**

Routing fuzzy logic network lifetime wireless sensor networks.