Prolong the Lifetime of Wireless Sensor Network using Fuzzy Logic to Control the Movement of the Mobile Sink

Abstract

Wireless sensor network is a wireless network which includes some sensor nodes. The sensor nodes are as the same and limited battery power. Wireless sensors could monitor physical or environmental conditions of a region. Aggregation data by sensors transmit to a sink. Because of limited power battery of sensor nodes, sending data from sensors to sink is a challengeable issue in these networks. focus in this paper proposed two algorithms for send data from sensor node to the sink. In first algorithm was utilized mobile sink and clustering such that design a paths for mobile sink by fuzzy logic which this paths include all of cluster head. In second algorithm sink path is fixed and for sending data from sensor cluster heads to the sink was utilize from Rendezvous Nodes. In this method selection of cluster head and Rendezvous Nodes was used by fuzzy logic

Then the simulation of proposed method using the network simulator OMNeT++ useful for debugging, performance evaluation, the simulation results show that proposed method gives better average energy, throughput and energy consumption and effectively Reduction delay.
References

6. Terrestrial ecology observing systems.


**Index Terms**

Computer Science

Fuzzy Systems

**Keywords**

Wireless sensor network, mobile sink, clustering, Rendezvous Nodes, fuzzy logic, routing