Abstract

Wireless Sensor network consists of large amount of low power sensor nodes generally deployed in hostile and harsh environment to sense, collect and transmit data to the sink situated at some distance. Clustering has been widely studied to enhance the lifetime of WSN by reducing the number of packet transmission. In clustering, the nodes selected as cluster head, often suffer from high overload and thus consume more energy. In this paper, we have proposed a new on demand Energy Consumption rate stable election protocol for heterogeneous WSN that uses an improved cluster head selection criteria. The improved selection criterion utilizes average remaining energy and average distance of each node which is not considered in existing protocols. Furthermore the proposed protocol being reactive improves the stability period and network lifetime. The experimental analysis depicts that the proposed algorithm has shown a significant improvement over ECRSEP.


**Index Terms**

Computer Science  
Wireless

**Keywords**
On demand, ECRSEP, clustering, heterogeneous, WSN, wireless, sensor, network.