Abstract

Preserving the consumed energy of each node for increasing the network lifetime is an important goal that must be considered when developing a routing protocol for wireless sensor networks. The main objective of cluster-based routing protocol is to efficiently maintain the energy consumption of sensor nodes by involving them in multi-hop communication within a cluster and by performing data aggregation and fusion in order to reduce the number of transmitted messages to the base station (sink) and transmission distance of sensor nodes. In this paper we propose a new approach called (DB-SEP) which cluster heads are selected on the basis of their initial energy and their distances between them and the sink. Experimental results show that our approach performs better than the other distributed clustering protocols such as SEP in terms of energy efficiency and lifetime of the network.
Distance-based Stable Election Protocol (DB-SEP) for Heterogeneous Wireless Sensor Network

References

- S. Bandyopadhyay, E.J. Coyle, “An Energy Efficient Hierarchical Clustering Algorithm for
Distance-based Stable Election Protocol (DB-SEP) for Heterogeneous Wireless Sensor Network


**Index Terms**

Computer Science

Wireless

**Keywords**

Energy Efficiency  Network Lifetime  Heterogeneous Network  Distance-Based