Design of Energy Efficient Cluster Head Routing Algorithm for Heterogeneous Wireless Sensor Networks

Abstract

The cluster based technique is one of the good approaches to reduce energy consumption in Wireless Sensor Networks (WSNs). A new Energy Efficient Cluster Head Routing protocol for heterogeneous WSN, which is called EECHR is proposed and evaluated which works on sleep-awake policy that help in prolonging lifetime of the network. In EECHR, the cluster head is elected if its residual energy is more than system average energy of the network. The nodes with high initial and residual energy will have more chances to become cluster head. Finally the simulation results show that EECHR enhances lifetime of heterogeneous sensor network as compared to other protocols i.e., Distributed Energy Efficient Clustering (DEEC) and Threshold Sensitive Stable Electron Protocol (TSEP).

References


Index Terms

Computer Science

Algorithms

Keywords

Energy Efficiency, Cluster Head, Heterogeneous environment, Wireless Sensor Network