Abstract

Hierarchical routing architecture partitions the whole network into a group of clusters, and only the cluster head is responsible for forwarding the data to the base station. In this work, we have considered the concept of heterogeneity as in Stable Election Protocol (SEP). In a heterogeneous environment, a percentage of the population of sensor nodes is equipped with additional energy resources—this is a source of heterogeneity which may result from the initial setting or as the operation of the network evolves. SEP does not consider the residual energy of a node while electing a cluster head to increase reliability as well as there is no concept of sleep nodes to enhance network lifetime. In this paper, we have proposed a routing protocol which will consider the residual energy of a node before making it a cluster head as well as we have introduced the concept of sleep nodes, so that it will be reliable and energy efficient and results will be compared with existing routing protocols of the same category such as SEP.


Index Terms

Computer Science

Wireless

Keywords

Heterogeneous wireless sensor network, SEP, energy efficient, reliable