Abstract

A wireless sensor network consists of spatially distributed autonomous sensors to monitor physical and environmental conditions. One of the major concerns in wireless sensor network is increasing an energy-efficient protocol which has an important impact on the overall network lifetime of the sensor network. In this work, we propose a new clustering scheme called Energy-Aware Coverage Preservation and Lifetime Enhancement Protocol for Wireless Sensor Network (EACPLEP) which is essentially a variation of an existing routing scheme, An Enhanced Energy-Efficient Protocol with Static Clustering (E3PSC). Alike to E3PSC, the presented work partitions the network into distance-based static clusters, reduce the overhead of dynamic clustering. However, disparate E3PSC, the selection of cluster heads are based on density aware scheme in which, where the number of nodes are more, the cluster head formed on that side. Performance of the scheme is considered in terms of network lifetime. A set of experimentation is carried out to assess the performance of the scheme and to compare the results with E3PSC. Based on our experimental results, it has been found that EACPLEP outperforms E3PSC in terms of network lifetime and energy consumption.
References


Index Terms

Computer Science

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Keywords