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Abstract

A wireless sensor network is consists of hundreds or thousands of nodes that are densely deployed in a large geographical area. These nodes are commonly used for continuously monitoring applications. Also these sensor nodes have small batteries. The energy consumption is the main issue in WSN's. The efficient routing protocol should minimize the energy consumption. In this paper, we propose energy efficient routing protocol, which uses hierarchical based clustering. It is an extension of LEACH routing protocol. Instead of a single

cluster head, a group of associates called group of cluster heads in a cluster manages the network. Group of cluster heads have two phases namely election phase and data transfer phase. On rotation basis, a group of cluster heads member receives data from the neighbor nodes and transmits the aggregated data to distance base station. At a time only one member of the group of cluster heads is active and the remaining members are in sleep mode. The group of cluster heads not only optimizes energy consumption by reducing the number of election but evenly distributed the long-range transmission among the networks nodes. The simulation results shows that the proposed protocol outperform the traditional clustering techniques

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