

Abstract Details

Title: Wireless Sensor Networks Protocol: WCWSN

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Abstract: In this work the two layered clustering is maintained to increase the energy efficiency of the sensor network. At layer one the clustering is done by the base station after getting the initial information from the active sensors. The base station finds out the redundant nodes by analyzing the data sent by the sensor nodes (their id, positions, energy level etc.) and put the redundant nodes in separate cluster so as to create the disjoint cluster sets in such a way that each cluster is able to cover the area under surveillance. In other words we can say that the clusters can be selected iteratively to sense the entire area. Only one disjoint cluster need to be active at a time and other clusters should go into sleep mode (energy conserving mode). Every disjoint cluster has a cluster head that is responsible to get information from the base station about their turn to transmit data or to go into sleep mode. The disjoint clusters themselves are also the collection of clusters. This is called second layer of clustering. Like other WSN protocols small clusters are maintained within the upper layer cluster to reduce the transmission energy. Each cluster has a cluster head that aggregate the data from other nodes within the cluster and send it to the sink. We can select the cluster heads dynamically depending upon the energy left with them so that they can be prevented from losing their life much earlier.

Keywords: WSN; WiseMAC; Clustering; Disjoint Clusters; Leach; Energy Efficiency.