

ABSTRACT

Researches of Wireless Sensor Network (WSN) routing is held in order to increase power consumption efficiency so that can make network lifetime longer. As we know, each node in WSN only have limited power.

Low Energy Adaptive Clustering Hierarchy (LEACH) is one of many protocol routing in WSN which focused in distribution of power consumption. There is a rotation of Cluster Head (CH) every round in the network based on optimum probability of each node. The amount and mapping of CH sometimes isn't distributing well. In this thesis, added the abilities to filter data which can be sent by a defined threshold. And then, nodes which can't reach CH directly can use other node to become a hop. This ability is also working for CH, means that CH can't reach the BS can use other CH to become a hop.

By this modification and based on simulation result, Modified LEACH has better distribution and less power consumption than LEACH. Performance of Modified LEACH is also better than LEACH based on latency and packet loss.