Abstract

A wireless sensor network (WSN) consists of spatially distributed autonomous sensors to monitor physical or environmental conditions, such as temperature, sound, pressure, etc. and to cooperatively pass their data through the network to a Base station or sink which communicates the data further for processing. The sensor nodes have limited battery power sources and bandwidth. LEACH protocol is one of the clustering routing protocols in wireless sensor networks which is able to distribute energy dissipation evenly throughout the sensors. This paper focuses on even distribution of the energy load among the sensor nodes in order to overcome the problem of overly utilized sensor nodes that will run out of energy as compared to other sensor nodes. The proposed protocol is an enhancement of Leach which selects the top ten percent of the total sensor nodes which have highest residual energies. The proposed protocol will optimize the energy of the WSN and increase the network lifetime as compared to Leach protocol. There are two phases of the protocol i.e. setup phase and steady phase. In this work, MatLab 7. 9 version has been used for the simulation work.
Enhancement in Leach Protocol for Wireless Sensor Networks


Index Terms

Computer Science
Wireless

Keywords

Wireless sensor networks base station Clustering Leach protocol network lifetime