Abstract

Wireless Sensor Network has gained a tremendous attention of researchers due to its vast applications. Wireless sensor network consists of small size and low powered smart sensor nodes deployed in the region to be monitored. Sensor nodes sense the data and send the sensed data to sink directly or by coordinating with other sensor nodes. It is difficult to change the network topology and battery of sensor nodes. Hence, a key point to increase stability period and network lifetime is to efficiently utilize the energy of sensors. In this paper, we propose a new protocol, zonal based deterministic energy efficient clustering protocol (ZDEC) in which sensor field is divided into zones. Cluster heads are elected based on residual energy such that each zone contains minimum one cluster head. Our proposed protocol ensures uniform distribution of cluster heads which leads to the uniform energy dissipation over the sensor field. Simulations show that our proposed protocol increase stability period and network lifetime when compared with LEACH, ESEP and DEC in heterogeneous environment significantly.
Zonal based Deterministic Energy Efficient Clustering Protocol for WSNs

- Aderohunmu, F. A. and Deng, J. D. 2009. An Enhanced Stable Election Protocol (SEP) for Clustered Heterogeneous WSN.

**Index Terms**

Computer Science

Wireless

**Keywords**

Wireless Sensor Networks  Cluster  Zone  Uniform  Deterministic