Abstract

The deployment mechanism in wireless sensor networks (WSN) affects the coverage, connectivity, bandwidth, packet loss, lifetime of network, etc. features [1]. Depending upon the application, the sensor nodes are deployed in either random or deterministic fashion, accordingly WSN has different requirements and features. In this work, a new clustering technique, Energy Efficient Deterministic Cluster-Head Selection Algorithm (E2DCH), is proposed for deterministically deployed WSN. Better coverage with less number of nodes,
minimum traffic from nodes to base station, balanced energy consumption are the main features of E2DCH to improve life time of WSN. The proposed algorithm uses dynamic routing from nodes to respective cluster head by considering the number of nodes and residual node energy of all the involved nodes. It includes an efficient technique for reorganizing the clusters. Analysis and simulation results demonstrate the correctness and effectiveness of the proposed algorithm.

References

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Keywords

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