Abstract

A wireless sensor network with a large number of tiny sensor nodes can be used as an effective tool for gathering data in diverse conditions. One of the crucial matters in wireless sensor networks is developing an energy-efficient routing protocol which has a significant impact on the overall lifetime of the sensor network. In this paper, we propose a balanced cluster routing protocol called balance cluster lifetime prolonging protocol (BCLPP). In BCLPP, we divide the network into four static quadrants which have almost equal number of nodes, which reduce the overhead of dynamic clustering thus increase the lifetime of our network. Simulation-based evaluations are performed to compare the performance of BCLPP against Energy-Efficient Protocol with Static Clustering for Wireless Sensor Networks (EEPSC). Our experiment results show that BCLPP outperforms EEPSC in terms of network lifetime and power consumption minimization.
Balanced Cluster Lifetime Prolonging Protocol for Wireless Sensor Network

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Index Terms

Computer Science

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Keywords

Clustering technique  Energy efficiency  network lifetime and wireless sensor network.