



RESEARCH ARTICLE

Performance Analysis of a Concentric Cluster Based Hierarchical Routing Protocol for WSN

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Abstract— Wireless Sensor Networks consist of small nodes with sensing, computation and wireless communication capabilities. In general, sensor nodes have some limitations such as limited battery power, storage capability and restricted computing ability. So it is essential to design effective and energy aware protocols in order to prolong the network lifetime. PEGASIS is one of the well-known chain-based routing protocols for improving energy efficiency and it is based on a chain-based greedy algorithm. However, PEGASIS protocol causes redundant data transmission since one of the nodes on the chain is selected as a head node. This problem of redundant data transmission is overcome by enhanced PEGASIS based on concentric clustering scheme. In this paper, we analysed the performance of concentric cluster based PEGASIS for WSNs. The results are found to be satisfactory.

Indexed Terms: - wireless sensor networks, PEGASIS protocol, nodes, concentric cluster.

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