

عنوان مقاله:

Optimization Routing Hierarchical Cluster Heads MobileCharger In Wireless Sensor Networks

محل انتشار:

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خلاصه مقاله:

Wireless Sensor Network is one of the well-known emerging technologies of the 21st century. Wireless Sensor Network raises the interactions between humans and environment to a new level. In recent years, Wireless Sensor Network has attracted a lot of attention from researchers in both academic and industrial communities. Wireless Sensor Network consist of tiny, energy efficient sensor nodes communicating via wireless channels, performing distributed sensing and collaborative tasks for a various monitoring applications include monitoring of temperature, humidity, vibrations, seismic events, pollution detection, etc. This research work investigates on improving the energy efficiency in Wireless Sensor Networks through the Energy Efficient Cluster based Multilevel Hierarchical Routing with Compressed Sensing based data aggregation. We aim at designing some deployable network protocols and the mc scheduling algorithms to fully exploit the strength of the charging technology and hence to maximize the network lifetime. Firstly a novel Energy Efficient Clustering technique for single hop Wireless Sensor Networks is proposed, which suits better for periodical data gathering applications. In Energy Efficient Clustering technique, the network is partitioned into a group of cluster regions with one Cluster Head for each cluster region. Energy Efficient Clustering uses a new method of election for cluster heads and cluster formation. The value of Cluster Head competition range produces a good distribution of cluster heads. The design principle of Energy Efficient Clustering is that the role of Cluster Head should be rotated among all nodes and the cluster sizes should be carefully determined at different parts of the network to minimize energy consumption and also to extend the network lifetime and energy efficiency. Analysis results of three hierarchical routing methods shows that the Multilevel Hierarchical Routing is much more effective in terms of energy efficiency in Wireless Sensor Networks compared with other methods

کلمات کلیدی:

Energy Efficient, Wireless Sensor Network, Cluster Head, Charging Technology

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