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论文

基于链路质量的WSN代价均衡路由选择算法

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摘要
该文针对无线传感器网络中不可靠链路通信耗能过大的问题，基于链路质量进行路由代价函数构建，并为各条路径分配适当的选择概率，采用最小跳数转发策略设计了代价均衡的路由选择算法CBLQ；为了进一步降低和均衡路由代价，分析同跳节点的备选转发条件，又扩展形成了新的路由选择算法CBLQ-E。仿真实验结果证明，两种算法均使网络的能量利用率得到有效提高，同时还降低了网络的数据传输时延。

关键词 无线传感器网络 路由算法 链路质量 代价均衡

分类号 TP393

Cost Balanced Routing Algorithms Based on Link Quality in WSN

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Abstract
For that the communications by unreliable links wastes too much energy in wireless sensor networks, based on link quality, routing cost functions are constructed and proper selective probability is allocated to paths. Then the algorithm CBLQ (Cost Balanced routing algorithm based on Link Quality) is designed by adopting the minimum-hop-count forwarding strategy. To further reduce and balance the routing costs, the alternate forwarding condition of brother nodes is analyzed and the new routing algorithm, CBLQ-E, is extended to form. The results of simulating experiments prove that both algorithms increase the ratio of energy utilization effectively, as well as decrease the data transmission delay of networks.

Key words Wireless Sensor Network (WSN) Routing algorithm Link quality Cost balance

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