

一种基于LEACH协议改进的簇间多跳路由协议

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摘要：

为了均衡无线传感器网络的能量消耗，延长网络的生存时间，本文在研究几种基于均匀分簇和非均匀分簇的路由协议基础上，提出一种基于LEACH协议改进的簇间多跳路由协议。该协议引入能量因子和距离因子修正了LEACH协议的阈值函数。在簇间通信过程，簇头节点与Sink节点之间采用多跳通信方式，簇头与簇头之间形成一条通向Sink节点的优化路径。实验结果表明，相比于LEACH协议和EEUC协议，本文提出的新协议能够有效的均衡网络的能量消耗，延长无线传感器网络的寿命。

关键词：无线传感器网络；LEACH协议；非均匀分簇；多跳

A Inter-cluster Multi-hop Routing Protocol Improved Based on LEACH Protocol

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Abstract:

In order to balance energy consumption of wireless sensor networks, and prolong survival time of the networks, this paper studies several routing protocol based on uniform clustering and non-uniform clustering, and propose an inter-cluster multi-hop routing protocol improved based on LEACH protocol. The protocol introduces energy factor and distance factor to correct threshold function for LEACH protocol. In inter-cluster communication process, cluster head nodes communicate with Sink node by multi-hop, which forms an optimal path leads to sink node among cluster head nodes. The result of experiment shows that, compared to LEACH protocol and EEUC protocol, the new protocol this paper proposed can balance effectively energy consumption of the networks, and prolong the life of wireless sensor networks.

Keywords: wireless sensor networks; LEACH protocol; non-uniform clustering; multi-hops

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