

一种基于LEACH的高效节能协议

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摘要：

针对无线传感器网络能量的限制，提出了一种基于leach的高效节能算法leach-edm。新协议中簇首的选择同时考虑节点的剩余能量和簇首间距，簇首与基站之间的路由采用hopfield模型寻找一个多跳最优路径。仿真实验结果表明：与leach相比，该算法能有效延长网络的生存时间约50%，并且使第一个节点与最后一个节点的死亡时间差缩短在30轮内；因此该算法使负载更均衡，提高了能量的利用率。

关键词：无线传感器网络；leach；剩余能量；距离；多跳

An energy efficient algorithm based on LEACH

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Abstract:

To improve the survival time of WSN limited by the energy and capacity, we presented an energy efficient algorithm leach-edm based on the leach, in which nodes' residual energy and distance are considered at the same time for choosing cluster heads and an optimal multi-hops path from the cluster heads to the base node is found by greedy algorithm. The simulation results show that the proposed algorithm can extend the survival time of the network about 50% compared with the leach and shorten the time lag between the death of the first and the last node in the 30 rounds. Obviously, the new algorithm has a better balanced load and utilization of energy.

Keywords: wireless sensor networks; leach; residual energy; distance; multi-hops

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