传感技术学报
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基于投票策略的异构传感器网络分簇算法

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摘　要：

为了减少传感网络节点的能量消耗，提出了一种基于节点投票策略的异构传感网络分簇算法。通过坐标位置分割地理区域，根据剩余能量和距离，对每个区域内节点投票选举产生簇首，从而使能量消耗最慢和高剩余能量的节点优先当选为簇首。为了保证簇首能量消耗均衡，簇首之间基于剩余能量和距离形成多跳路由，簇首收集数据融合后转发到基站。仿真结果表明，在异构网络下,VSCA与早期的几种分簇路由算法相比,提高了网络的稳定周期，延长了网络生存时间，获得了更高的数据吞吐量。

关键词：异构传感器网络；分簇；投票；多跳；

Voting-based Strategy Clustering Algorithm for Heterogeneous WSN

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Abstract:

In order to reduce the energy consumption of nodes in WSN, this paper proposes A Voting-based Strategy Clustering Algorithm for heterogeneous wireless sensor networks. With the coordinates of nodes to partition the geographic, according to its residual energy and distance, nodes in each region vote and elect the Cluster-Head. Hence, it guarantee that with the high remaining energy be chosen as the Cluster-Head in priority. In order to balance energy consumption among the Cluster-Heads, the Cluster-Heads merge and send the gathered data to base station by the multi-hop manner based on its residual energy and distance. Simulation results have proved that the VSCA can increase the stability period, prolong the network lifetime and provide higher data throughput compared with several early cluster-based routing protocols for heterogeneous sensor network.

Keywords: Heterogeneous WSN, clustering, voting, multi-hop

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