无线传感器网络**DV-HOP**定位算法的改进

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摘　要：

节点定位在无线传感器网络的应用中起着重要作用，一直备受学术界和工业界的关注。本文在深入研究分析无线传感器网络DV-Hop定位算法和部分已有改进算法的基础上，提出了一种新的改进算法。针对DV-Hop算法在未知节点到信标节点距离计算中的不足，该算法对信标节点的平均每跳距离做出改进;并对可参考信标节点数小于3的未知节点进行估计定位，消除了因拓扑结构而造成的不可定位节点。仿真结果表明，改进算法比原算法及部分现有改进算法的定位精度有所提高。

关键词：节点定位；无线传感器网络；DV-Hop；未知节点；定位精度

An Improvement of DV-Hop Localization Algorithm for Wireless Sensor Network

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Abstract:

Node localization is crucial to Wireless Sensor Network and has been paid much attention to by academia and industry all the times. Based on an in-depth study and analysis of DV-Hop location algorithm and improved algorithm of wireless sensor networks, this paper presents an improved localization algorithm in wireless sensor networks. To overcome the disadvantage of DV-Hop algorithm when it was used to compute the distance of unknown nodes and beacon nodes, improved localization algorithm revised the average distance of each hop of beacon nodes; and then improved localization algorithm located unknown nodes which are less than three beacon nodes, so eliminate unlocated nodes brought by topology structure. Simulation results show that the localization accuracy of the improved algorithm is better than those of the original and some existing improved algorithms.

Keywords: node localization; wireless sensor network; DV-Hop; unknown nodes; positioning accuracy

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