无线传感器网络中一种基于移动**Sink**的数据收集算法

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摘　要：

针对移动无线传感器网络设计一种不依赖于节点地理位置的基于移动汇聚节点(Sink)的数据收集算法(Mobile Sink-based Data Gathering, MSDG)。该算法解决了无线传感器网络中多跳路由通信时出现能量空洞的"热点"问题。Sink沿途以最近的固定节点作为根节点动态构建路由树。簇内移动节点感知的数据经簇头进行数据融合计算，然后将融合后的数据沿路由树反向逐跳转发给Sink。仿真结果表明，MSDG在节点的平均能耗和网络生存时间等方面的性能远超过LEACH-ME、ACE-L等数据收集协议。

关键词：无线传感器网络；数据收集；分簇；移动Sink

Mobile Sink-based Data Gathering Algorithm in Wireless Sensor networks

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Abstract:

A novel algorithm MSDG (Mobile Sink-based Data Gathering), which does not depend on the location of nodes, is proposed in the mobile wireless sensor networks (WSNs). It solves the "hot spot" problem--multi-hop routing in WSNs brings to energy hole. The nearest fixed node which along the routing tree is regards as the root node. At the same time, the cluster fuse the sensed data, thus the data fusion is flanked by trees to send to Sink node in reverse-by-jump. Simulation results show that in the aspect of average energy consumption and network lifetime, the performance of MSDG surpasses data gathering protocols of LEACH-ME and ACE-L.

Keywords: Wireless Sensor Networks; Data Gathering; Clustering; Mobile Sink

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