

## 无线传感器网络中基于异构节点的覆盖控制算法

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摘要:

摘要: 本文研究了无线传感器网络中基于异构节点的优化覆盖控制问题。异构无线传感器网络由两类能力不同的节点组成, 包括普通节点和超级节点。对普通节点采用基于状态轮转的覆盖控制算法, 对超级节点采用基于路由表的转发策略。通过两类节点的协作使得网络达到覆盖与连通的目的。模拟结果表明, 在具有相初始能量的情况下, 该算法与SHHN-HS算法相比能够延长网络生命期。

关键词: 无线传感器网络; 覆盖; 异构; 路由表

## A Coverage Control Algorithm Based on Heterogeneous Nodes in Wireless Sensor Networks

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**Abstract:**

Abstract: This paper addresses the coverage problem based on heterogeneous nodes for wireless sensor networks (WSNs). The network consists of two types of nodes which have different capabilities. For the super-node deployment, we propose a strategy based on route table; for the normal-node deployment, we present a strategy based on node state transition. By using the coordination of the two types of nodes, we provide both coverage and connectivity for the network. At last, the proposed algorithm compared with the SHHN-HS algorithm. Simulation results show that the proposed algorithm can extend the lifetime of the network when both algorithms have the equal initial energy.

**Keywords:** Key words: wireless sensor networks; coverage; heterogeneity; route table

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