

### SAHRC: 一种基于分簇的无线传感器网络路由控制算法

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### SAHRC: A Cluster-based Routing Control Protocol for Wireless Sensor Network

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摘要

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**摘要** 设计特定应用场合的路由控制算法是无线传感器网络路由控制领域研究的热点之一。在深入研究经典网络路由算法(LEACH)的基础上,提出一种基于分簇的自适应混合型路由控制(SAHRC)算法。该算法针对大规模事件驱动型网络场景应用,采用网内节点启发机制解决了LEACH算法面对大规模网络缺乏自适应性,未考虑节点剩余能量,通信效率难以得到保障等问题。仿真结果表明,新的SAHRC算法比原有LEACH算法有更好的节能性和稳定性。

**关键词:** 无线传感器网络 路由控制算法 自适应 分簇 自适应混合型路由控制(SAHRC)

**Abstract:** Exploring a new routing control protocol is a hot spot in WSN research. A cluster-based Self-Adaptive Hybrid Routing Control (SAHRC) protocol for WSN in special application is proposed based on traditional LEACH protocol. It takes account of large-scale event-driven network application scenarios, uses self-configuring and trigger mechanism to solve the shortages of LEACH in large-scale networks, such as the lack of self-adaptability, leaving consideration of the node's residual energy, and the difficulty in improving communication efficiency. The simulation experiments show that, compared with existing LEACH algorithm, the algorithm SAHRC provides higher performance in stability and energy-saving.

**Keywords:** Wireless sensor network Routing control protocol Self-adaptive Cluster Self-Adaptive Hybrid Routing Control (SAHRC)

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