

## 无线传感器网络分布式离群数据检测研究

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摘要:

近年来, 无线传感器网络离群数据检测研究越来越受到人们的关注。无线传感器网络离群数据检测在火灾监测、欺诈和入侵检测等诸多领域都有非常重要的作用。本文针对无线传感器网络集中式离群数据检测算法能量消耗过快的问题, 提出了一种基于密度的分布式离群数据检测算法, 并通过引入时空关联性有效提高了检测精度。通过NS2仿真实验, 验证了该分布式算法节省了能量消耗, 同时保持了较高的检测准确率。

关键词: 无线传感器网络; 离群数据; 时空相关性; 分布式算法

## Distributed Outlier Data Detection Based On WSN

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**Abstract:**

In recent years, outlier data detection causes more and more attention in WSN. Outlier data detection in WSN plays a very important role in fire monitoring, fraud and intrusion detection. To solve the problem that the energy consumption speed of centralized outlier data detection algorithm in WSN is too fast, this paper provides a new distributed outlier data detection algorithm in WSN. The algorithm introduces temporal correlation and improves the accuracy. The algorithm was verified by NS2 simulator. Simulator results demonstrate that this algorithm not only decreases the energy consumption, but also keeps a high precision.

**Keywords:** Wireless Sensor Network; outlier data; temporal correlation; distributed algorithm

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