

无线传感器网络离群时间序列检测研究

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摘要：

基于无线传感器网络的环境监测系统中，广泛存在着离群数据。目前，一个有趣但还没有被广泛讨论的问题是离群时间序列的检测问题。为了满足大规模数据集快速离群数据检测的需求，本文提出了一种新的无线传感器网络离群时间序列检测算法，通过引入切比雪夫多项式实现离群数据快速检测。通过NS2仿真实验，证明了该算法的可行性和有效性。

关键词：离群数据；无线传感器网络；时间序列；切比雪夫多项式

Outlier Time Series Detection Based on WSN

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Abstract:

Outliers are very common in the environmental data monitored by a sensor network. An interesting problem which has not been adequately addressed so far is the detection of outlier time series. In order to meet the need of rapid outlier detection for large-scale data sets, this paper provides a new outlier time series detection in WSN. The algorithm introduces Chebyshev polynomials to detect the outlier data. The algorithm was verified by NS2 simulator. Simulator results demonstrate that this algorithm keeps a high precision.

Keywords: outlier data; Wireless Sensor Network; time series; Chebyshev polynomial

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