基于可重配置策略的传感器协同信息获取方法

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摘 要：

雨量传感器的感测分辨力和适用降雨强度是一对矛盾,难以单纯依靠其硬件或新型传感原理的应用加以改进和处理.本文具体分析了雨量传感器感测原理,提出一种于可重配置策略的雨量传感器协同信息获取方法.该方法通过对不同分辨力雨量传感器的信息量输出时间序列的预测,并结合雨量传感器协同模型,以达到不同强号的感测和提高信息精度的目的.仿真结果表明协同策略在该类传感器的相对误差和绝对误差得到改善.

关键词：雨量传感器; 感测分辨力; 协同信息获取; 可重配置策略; 协同模型

A Reconfigurable Strategy for Sensors Collaborative Information Acquisition

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Abstract:

Sensing resolution of rainfall sensor and its applicable rainfall intensity is a pair of contradictions,which can not be solved by its hardware improvement or the application new sensing principle. This paper specifically analyses the sensing theory of rainfall sensors, then, it proposes a sensors collaborative information acquisition method ba on reconfigurable strategy. This method forecasts output information's time sequence for sensors with different sensing resolution, combining collaborative model of sensors in order to adapt sensing of various signals with different intensity, furthermore, it improves the accuracy of information acquisition. The simulation results show that, the collaborative strategy can improve relative error and absolute error of such sensors.

Keywords: Ranfall Sensor; Sensor Resolution; Collaborative Information Acquisition; Reconfigurable Strategy; Collaborative Model