

基于LS-SVM及嵌入式技术的力敏传感器温度补偿

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摘要:

针对目前采用SVM方法对传感器温度补偿主要实现于PC机现状, 而嵌入式智能仪表在测量领域有着广泛的应用, 提出了将嵌入式技术和LS-SVM相结合的力敏传感器温度补偿方法。由LS-SVM融合改进的模拟退火算法构建传感器非线性模型, 同时实现了力敏传感器的温度补偿和非线性修正, 并通过构建嵌入式平台实现了该方法, 该方法具有易实现, 补偿精度较高等特点, 对基于嵌入式智能仪表的温度补偿有一定的实际意义。

关键词: 嵌入式技术 LS-SVM 模拟退火算法 力敏传感器 温度补偿

The Power-sensed Sensor Temperature Error Compensation Based on LS-SVM and Embedded Technology

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Abstract:

The SVM method for sensor error compensation is mainly used in PC at present, but the embedded intelligent instrument is widely used in the field of measurement. In this paper, A kind of power-sensed sensor error compensation method used LS-SVM and embedded technology is presented. The power-sensed sensor's model is constructed by LS-SVM combining with improved simulated annealing algorithm. Both the sensor error compensation and the sensor nonlinear correction are achieved. The method effect is effectively proved by constructing embedded system platform. This method has Many advantages such as easy realize, high precision etc. were shown in this method. The method has practical significance for those intelligent instruments based on embedded technology.

Keywords: embedded technology LS-SVM simulated annealing algorithm(SA) power-sensed sensor temperature error compensation

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