

## 基于DSP和IIR的传感器动态特性改善装置

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摘要:

在瞬态信号测试中, 一些情况下传感器的动态特性不能满足需求。针对此问题采用最小二乘法处理动态校准的数据并进行逆建模实现对传感器动态特性的改善。在以DSP为核心的补偿装置中先将离线辨识的参数存入系统, 然后对传感器装置和传感器组成的智能传感器系统的动态特性, 明显优于传感器本身的动态特性。

关键词: 瞬态信号, 最小二乘法, IIR滤波器, DSP, 动态特性

## A Dynamic Compensation Device of Sensor Based on DSP and IIR

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**Abstract:**

The situation happens constantly in transient signal testing, that dynamic characteristics of sensor cannot meet demand. In order to improve sensor dynamic characteristics which is by means of least square method (LSM) to process dynamic calibrating data of IIR filter, and finally designing inverse modeling of sensor. A compensation device is designed based on DSP. The method in compensation device and the output sequence of sensor is modified on line using compensation device. Experiments show sensor combined compensation device and sensor significantly better than that of sensor itself.

**Keywords:** Transient signals; Least Squares; IIR filters; DSP; Dynamic characteristic

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