基于**Fisher**信息的多传感器数据融合方法

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摘　要：
针对多个传感器对某一特性指标进行测量实验的数据融合问题，利用信息理论中的Fisher信息，提出了一种新的多传感器数据融合方法。该方法以最大化各传感器测量数据包含待测参数的Fisher信息为目标函数，通过求解优化问题，得到数据融合结果。可以较好地避免受主观因素影响的关系矩阵，充分利用试验数据，防止有效数据的丢失，提高融合结果的精确性。仿真实验验证了方法的有效性。

关键词：多传感器；数据融合；Fisher信息；精确性

Method of Fusion for Multi-sensors Data based on Fisher Information

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Abstract:

For the data fusion problem of multi-sensors experiment on some characteristic index, applied the Fisher information in the theory of information, a new fusion method for multi-sensors data is proposed. The object function is to maximize the Fisher information on the estimated parameter of all sensors' measurements. The fusion result is obtained by solving the optimal problem. The new method can avoid the relationship matrix influenced by subject factors, make full use of the data of experiment, prevent the effective data from losing, and improve the accuracy of fusion result. The simulated experiment proves the efficiency of the method.

Keywords: multi-sensors; data fusion; Fisher information; accuracy

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