

## 传感器与信号处理

### 基于CCF的单传感器辐射源识别方法

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摘要:

在论述了D-S证据理论在单传感器辐射源识别应用的基础上, 提出了一种基于组合分类器信息融合(combining classifier fusion, CCF)的单传感器辐射源识别方法。该方法利用了两方面的知识, 一是由组合分类器对样本数据分类能力表征的先验知识, 二是由组合分类器对未知模式目标的分类能力表征的当前知识。基于先验知识对当前知识进行必要的实时性修正, 在分类器融合输入级提高了当前知识的正确性。利用合适的组合算法, 对分类器的输出级进行正确信息的有效提取, 提高了单传感器辐射源识别的准确性。仿真结果表明了该方法的可行性及有效性。

关键词: 辐射源识别 组合分类器 证据理论 调节矩阵

### Single sensor emitter recognition based on CCF

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Abstract:

Based on the application of the D-S evidence theory in the single sensor emitter recognition, a method suitable to single sensor emitter recognition based on combining classifier fusion (CCF) is put forward. It uses two kinds of knowledge, one is prior knowledge which is characterized by the classification ability of combining classifier to the samples and the other is current knowledge which is characterized by the classification ability of combining classifier to the unknown patterns. The correctness of current knowledge is improved at the classifier fusion input site based on the real time updating of the prior knowledge to the current knowledge. The correct information of the classifier at the output site is extracted validly by the combining arithmetic and the single sensor emitter recognition accuracy is improved finally. The simulation results show the feasibility and validity of the method which is referential for the engineering application.

Keywords: emitter recognition combining classifier evidence theory adjustment matrix

收稿日期 修回日期 网络版发布日期

DOI: 10.3969/j.issn.1001-506X.2011.04.16

基金项目:

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