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Title: Method of ATR Based on Rough Set Theory and SVM

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关键词: 目标识别; 不变矩; 复数矩; 粗糙集; 支持向量机

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摘要: 主要研究了基于粗糙集和支持向量机的模式分类技术, 结合遥感图像中军用飞机目标识别进行了理论分析和实验研究。基于粗糙集和支持向量机算法的优势, 设计了基于粗糙集和决策有向无环图的支持向量机模式识别分类器, 对分类的性能进行了分析研究, 利用粗糙集理论中属性约简方法去除冗余属性, 降低飞机特征维数, 提出使用决策有向无环图支持向量机进行训练并对待识别目标预测。

Abstract: In this paper, technique of pattern recognition based on rough set and support vector machine, combined with the airplane recognition for optical remote sensing images is analyzed and researched. A classifier based on the advantage of rough set and directed acyclic graph support vector machines (DAGSVM) is designed. By means of comparable research and result analysis of classifier, some satisfied research fruit is obtained. A pattern recognition classifier based on rough set and support vector machine is designed in this paper and the classified arithmetic based on rough set and DAGSVM combined with R DAGSVM. As a result, this method provides a high recognition precision and speed with high capability of anti disturbance to improve the performances of classifier effectively.

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