

工程与应用

利用混合像元分解结合SVM提取城市绿地

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摘要 从遥感图像提取城市绿地是准确获取城市绿地空间分布的基础。然而由于混合像元的存在, 导致城市遥感分类精度不高。因此, 利用混合像元分解结合SVM(支持向量机)法提取北京市TM图像城市绿地, 并与决策树法比较, 研究提高遥感提取城市绿地精度的方法。结果表明, 该方法较适合复杂高维空间, 对样本选取的准确性没有那么苛刻, 可有效地处理城市遥感图像存在的混合像元问题, 可较准确地提取城市绿地信息, 其精度在92%以上, 优于决策树法。

关键词 [遥感图像](#) [城市绿地提取](#) [混合像元分解](#) [支持向量机\(SVM\)法](#) [决策树法](#)

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Extracting urban green space with mixed pixel decomposing and SVM

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Abstract

Extracting urban green space from remote sensing image is the foundation to get urban vegetation distribution. However, urban classification accuracy is very low because of mixed pixels. Therefore, urban green spaces are extracted from TM image in Beijing based on mixed pixel decomposing and SVM, and compared with those based on decision tree. Great effort is made to enhance the accuracy. Results from this study show that this method is fit to high dimensional space and sample selection accuracy isn't very strict. It can deal with urban mixed pixels effectively and be used to extract urban green spaces very exactly. The accuracy of extracting urban green space with this method, which is over 92%, is higher than that with decision tree.

Key words [remote sensing image](#) [extracting urban green space](#) [mixed pixel decomposing](#) [Support Vector Machine \(SVM\)](#) [decision tree](#)

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