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干旱区ETM遥感图像蚀变异常信息提取方法研究 [点此下载全文](#)

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摘要:

含矿热液蚀变带是成矿作用发生的重要标志之一, 它作为矿产资源快速评价和定位预测的一个主要参数, 在遥感地质找矿中具有重要意义。本文在分析干旱区ETM遥感影像地物识别所依据的光谱特征的基础上, 提出一种基于小波自适应增强及主分量分析相结合的蚀变遥感异常信息提取方法, 结合MATLAB编程软件和ERDAS 8.6遥感图像处理软件进行蚀变信息提取试验, 并分别与传统的基于波段选择的主成分提取法以及基于主成分分析和比值增强相结合的提取法进行对比分析和效果查证。实验结果表明, 研究区内利用小波自适应增强与主分量分析相结合提取的遥感异常与已知矿床、矿(化)点的吻合率达到80%, 新发现矿化点一处和外围找矿线索多处, 能取得较为满意的提取效果, 具有快速、高效、经济的特点, 较之传统方法具有很大的优越性。

关键词: [ETM图像](#) [蚀变遥感异常](#) [小波变换](#) [主成分分析](#) [影像增强](#) [信息提取](#)

A Study on the Extraction of Alternative Anomalies Information from ETM Remote Sensing Image of Arid Area [Download Fulltext](#)

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Abstract:

Mineralized rock alteration anomaly is an important indication of ore forming. It plays an important role in the ore finding using remote sensing as a main parameter of fast evaluating and predicting the mineral resources. On the basis of analyzing spectral features used to recognizing the target objects of ETM image data, this paper introduces a method of extracting the alternative anomalies information, which combined wavelet adaptive threshold enhancing with the principal component analysis integrating MATLAB developing flat and remote sensing image processing software as ERDAS IMAGINE 8.6. Its effect of alternative abnormal information extracting is compared to the traditional methods that are based on the selective band principal component extraction and the combination of principal component and ratio band respectively. The results show that the coincidence rate between the known deposits and the ore (mineralized) spots and remote sensing alteration anomalies extracted using the method in this paper is 80 percent. At the same time, a new mineralized spot and many periphery clues of ore finding. This result is quite satisfactory. Moreover, it is of the features such as rapid, effective and economic etc., and the much more superiority than the traditional methods.

Keywords: [ETM image](#) [alteration anomalies of remote sensing](#) [wavelet transform](#) [principal component analysis](#) [enhance](#) [information extraction](#)

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