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摘要:

遥感卫星的多光谱数据应用于找矿已取得显著成效, 2004年7月中国卫星地面站开始提供ASTER (Advanced Space borne Thermal Emission and Reflection Radiometer, 高级星载热发射反照辐射计) 数据, 因涵盖波长范围宽 [VNIR (Visible and Near Infra red)、SWIR (Short wave length Infra red)、TIR (Thermal Infra red)]、波段多(14个波段)、性价比合理等因素, ASTER数据的研究迅速发展。长久以来, 对覆盖区进行蚀变遥感异常信息提取一直是遥感找矿的关注点之一。笔者等利用ASTER数据对浅覆盖区——包古图斑岩铜矿的II号、V号斑岩体进行蚀变遥感异常提取, 提取的蚀变异常与野外地质情况吻合性好。分别提取了光谱特征谱带差异明显的2组蚀变矿物的异常信息: 第一组是蒙脱石、埃洛石、伊利石与绢云母; 第二组是方解石、黑云母与绿泥石。提出了需要进一步工作的异常靶区。

关键词: [ASTER \(Advanced Space borne Thermal Emission and Reflection Radiometer\) 数据](#) [浅覆盖区](#) [蚀变遥感异常](#) [蚀变矿物分类](#), [包古图铜矿](#) [新疆](#)

The Application of ASTER Remote Sensing Data for Extraction of Alteration Anomalies Information in Shallow Overburden Area—a Case Study of the Baogutu Porphyry Copper Deposit Intrusion in Western Junggar, Xinjiang [Download Fulltext](#)

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Abstract:

Remarkable effect was achieved in exploration mineral resources using the multi spectral remote sensing alteration anomalies. ASTER (Advanced Space borne Thermal Emission and Reflection Radiometer) data, one of multi spectral data, offered by China Remote Sensing Satellite Ground Station in July, 2004. Being wider wavelength (VNIR (Visible and Near Infra red), SWIR (Short wave length Infra red) and TIR (Thermal Infra red)), more wave bands (14 bands) and reasonable ratio of capability with price, ASTER data have been developed rapidly. For a long time, remote sensing information extraction of alteration anomalies in thin overburden areas is a techno difficulty. This paper has described the alteration anomalies information in thin overburden areas, Baogutu porphyry copper deposits intrusions (No. 2 and No. 5) in western Junggar, Xinjiang, by ASTER data. The alteration anomaly information shows well consistence with the filed geological survey. Two groups alteration, with distinct different in characteristic spectrum band, have been extracted. The first group includes montmorillonite, halloysite, illite and sericite and the second includes calcite, biotite and chlorite. Anomaly targets have been put forward for advance study at last.

Keywords: [ASTER \(Advanced Space borne Thermal Emission and Reflection Radiometer\) data](#), [thin overburden areas](#), [alteration anomalies information of remote sensing](#), [classification of alteration minerals](#) [Baogutu copper deposit](#), [Xinjiang](#)

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