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## Abstract

Spectral feature used in remotely sensed image classification are recorded in narrow, adjacent frequency bands in the visible to infrared spectrum. Due to narrow spacing, these features are highly correlated and provide some redundant information which may reduce classification accuracy. Hence discriminative feature selection technique is required for better classification. In this paper, we present particle swarm optimization based technique to select best spectral features for remotely sensed image classification. The pixels intensity in selected best spectral band is used to construct the feature vector for that pixel. Each pixel in multispectral imagery is classified into various land cover types like water, vegetation, road and urban area etc. We

employed ANN for supervised classification of the image pixel. The accuracy obtained with proposed algorithm is compared with that of traditional classifiers like MLC and Euclidean classifier. The performance of the proposed system is evaluated quantitatively using Xie-Beni and ? indexes. The result shows the superiority of the proposed method to the conventional one.

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### **Index Terms**

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### **Keywords**

Ann Classification Feature Selection Pso Multispectral Image.