

عنوان مقاله:

Vegetation Detection Enhancement in Remote Sensing Images by Power-Law Transform

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خلاصه مقاله:

In the field of remote sensing, images in different spectral bands are considered for different applications. In the preprocessing of satellite images, one of the most important issues is to improve the contrast of images, which helps to increase the accuracy of land detection and segmentation. In remote sensing images after radiometric and atmospheric corrections, the histogram equalization technique is usually used to enhance the contrast of images in various spectral bands. Since this method does not consider the distribution of gray levels in different parts of the earth's surface image, the segmentation of areas is not very accurate. In this paper, in order to increase the accuracy of vegetation segmentation at ground level, we have used power-law transform. This study was performed on normalized difference vegetation index (NDVI) images from red and near-infrared spectral bands of the Landsat 8 satellite images. These indexed images are enhanced separately using each of the histogram equalizations and power-law transforms. Then, to compare, increasing the segmentation accuracy of each of them we use the K-means classical clustering algorithm. The results show a relative increase in vegetation detection accuracy in enhanced images using power-law transformations.

کلمات کلیدی:

Remote sensing, K-means, NDVI, histogram equalization, power-law transform

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