## عنوان مقاله:

Minimum Spanning Forest Based Approach for Spatial-Spectral Hyperspectral Images Classification

## محل انتشار:

هشتمین کنفرانس بین المللی فناوری اطلاعات ودانش (سال: 1395)

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## خلاصه مقاله:

In this paper, a new method for hyperspectral images classification is proposed. In particular, the notion of region-scale minimum spanning forest (RS-MSF) is introduced. In proposed scheme, hyperspectral pixels are first smoothed by the edge preserving filter and then RS-MSF is constructed. For building a RS-MSF, at first, a pre-segmentation is done by watershed, in order to divide the image into a lot of small regions. These regions will be considered as the nodes of regions of RS-MSF, instead of image pixels. Nm regions are randomly selected as markers. On the other hand, pixel-wise classification is performed for label assignment to selected markers. Then From this process, marker map is generated for the construction of MSF. The proposed method is tested on two different data sets of hyperspectral airborne images with different resolutions and contexts. The influences of the number of markers and parameters of filter are investigated in experiments. The performance of the proposed method is compared to those of several classification techniques (both pixel-wise and MSF based spectral–spatial method) using standard .quantitative criteria and visual qualitative evaluation

## کلمات کلیدی:

minimum spanning forest; spectral-spatial classification; hyperspectral images; edge preserving filter