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A spectral-spatial kernel-based method for hyperspectral imagery classification

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Abstract Spectral-based classification methods have gained increasing attention in hyperspectral imagery classification. Nevertheless, the spectral cannot fully represent the inherent spatial distribution of the imagery. In this paper, a spectral-spatial kernel-based method for hyperspectral imagery classification is proposed. Firstly, the spatial feature was extracted by using area median filtering (AMF). Secondly, the result of the AMF was used to construct spatial feature patch according to different window sizes. Finally, using the kernel technique, the spectral feature and the spatial feature were jointly used for the classification through a support vector machine (SVM) formulation. Therefore, for hyperspectral imagery classification, the proposed method was called spectral-spatial kernel-based support vector machine (SSF-SVM). To evaluate

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