Exploring the MSER-based hyperspectral remote sensing image registration

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Abstract Image registration is an essential preprocessing task in many applications of hyperspectral images capturing the Earth surface. Maximally Stable Extremal Regions (MSER) is a feature-based method for image registration which extracts regions by thresholding the image at different grey levels. Its invariance to affine transformations makes it ideal for image registration. This method is usually employed in text detection and recognition as well as in the medical domain. Hyperspectral images contain spectral information that can be used for improving the image alignment. This article presents a first approach to a hyperspectral remote sensing image registration method based on MSER that efficiently exploits the information contained in the different spectral bands. The experimental results over four hyperspectral images show that the proposed method is promising as it achieves a higher number of correct registration cases than other feature-based methods.

Palabras chave Image registration, remote sensing, hyperspectral, MSER

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