

FUSION OF PAN AND MULTISPECTRAL IMAGES BASED ON CONTOURLET TRANSFORM

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ABSTRACT:

Contourlet transform can represent singularities of anisotropy linear/curve edges and capture smooth contours and geometric structures in images much more efficiently than the wavelet transforms. The Nonsubsampled Contourlet Transform (NSCT) not only has multiscale and multidirectional properties but also has shift-invariant property by contrast to the contourlet transform. This paper proposes a new method of fusing panchromatic(Pan) and multispectral(MS) remote sensing images based on the nonsubsampled contourlet and IHS transform. IKONOS images were used to verify validity of the method. The experimental results show that the proposed method has greatly improved spatial resolution while it keeps the spectral fidelity and is better than the à trous and IHS fusion methods.

TOPIC: Data fusion and data assimilation

ALTERNATIVE TOPIC: Multi-spectral and hyperspectral remote sensing