

Multiscale Edge Detection Based on Nonsampled Contourlet Transform

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Abstract : It is well known that the wavelet transform provides a very effective framework for multiscale edges analysis. However, wavelets are not very effective in representing images containing distributed discontinuities such as edges. In this paper, we propose a novel multiscale edge detection method in nonsampled contourlet transform (NSCT) domain, which is based on the dominant multiscale, multidirection edge expression and outstanding edge location of NSCT. Through real images experiments, simulation results demonstrate that the proposed method is better than other edge detection methods based on Canny operator, wavelet and contourlet. Additionally, the proposed method also works well for noisy images.

Keywords : edge detection, NSCT, shift invariant, modulus maxima

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