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# A Robust Digital Image Watermarking Against Geometrical Attack Based on Hybrid Scheme

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**Abstract :** This paper presents a hybrid digital image-watermarking scheme, which is robust against varieties of attacks and geometric distortions. The image content is represented by important feature points obtained by an image-texture-based adaptive Harris corner detector. These feature points are extracted from LL2 of 2-D discrete wavelet transform which are obtained by using the Harris-Laplacian detector. We calculate the Fourier transform of circular regions around these points. The amplitude of this transform is rotation invariant. The experimental results demonstrate the robustness of the proposed method against the geometric distortions and various common image processing operations such as JPEG compression, colour reduction, Gaussian filtering, median filtering, and rotation.

**Keywords :** digital watermarking, geometric distortions, geometrical attack, Harris Laplace, important feature points, rotation, scale invariant feature
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