

Highly Transparent Steganography Scheme of Speech Signals into Color Images Using Quantization Index Modulation

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Abstract

A highly transparent steganography scheme of speech signals into color images based on Quantization Index Modulation (QIM) is presented in this paper. The proposed method takes advantage of the low distortion in the host image introduced by the scalar quantization of its wavelet coefficients. The stego image is highly similar to the host image, and the secret content is imperceptible. The secret message is recovered at the receiver with high correlation to the original speech signal. For the purpose of increasing the security of the system, an external mask is used to encrypt the secret content before the embedding process. Several tests were carried out in order to quantify the influence of the size of the quantizer (Δ) on the quality of the recovered secret content and the transparency of the stego image.

Keywords

Steganography Discrete wavelet transform Quantization index modulation

Imperceptibility

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Notes

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