Tamper Localization and Lossless Recovery Watermarking Scheme with ROI Segmentation and Multilevel Authentication

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Abstract Tamper localization and recovery watermarking scheme can be used to detect manipulation and recover tampered images. In this paper, a tamper localization and lossless recovery scheme that used region of interest (ROI) segmentation and multilevel authentication was proposed. The watermarked images had a high average peak signal-to-noise ratio of 48.7 dB and the results showed that tampering was successfully localized and tampered area was exactly recovered. The usage of ROI segmentation and multilevel authentication had significantly reduced the time taken by approximately 50 % for the tamper localization and recovery processing.

Keywords Lossless compression · Tamper localization · Recovery · Medical image · Watermarking

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