ABSTRACT

A robust image watermarking scheme in which a binary image is embedded in the singular values of selected DWT blocks in the horizontal and vertical sub-bands of a 1-level decomposition of a gray-scale image is proposed. The embedded blocks are selected by a secret key to enhance imperceptibility. A watermarked image that is perceptually indistinguishable from the original is obtained. The watermarking retrieval is non-blind and requires the use of parameters extracted during the watermarking process. The performance of the proposed algorithm is tested by comparing the retrieved watermark to the original watermark. Computer simulation results show that the algorithm is robust to common signal processing attacks such as Gaussian noise, cropping, and low pass filtering. It is also resistant to JPEG compression