

El Hajji, Mohamed & Hassan, Douzi & Mammass, D. & Harba, R.. (2011). A robust wavelet-based watermarking algorithm using mixed scales. International Conference on Multimedia Computing and Systems -Proceedings. 1-5. 10.1109/ICMCS.2011.5945615. Digital watermarking is a technology for embedding digital information in digital content (audio, images, video...). Recently, the watermarking is introduced as a tool to improve the security of identity documents. In this paper, we propose a watermarking algorithm operating in discrete wavelet transform (DWT) using mixed scales representation and quantization index modulation (QIM) of dominant blocks. Dominant blocks of the DWT with mixed scales represent the textured and contours zones of a portrait image. They are used for improving watermark invisibility and robustness. The DWT of Faber-Schuder (FSDWT) is firstly applied to image with mixed scales then the dominant blocks are selected. The watermark is embedded into the dominant blocks to obtain the watermarked image. Experimental results demonstrate that the proposed method is robust to attacks such as compression, blur, and noise.