



IMPROVED EMBEDDING OF MULTIPLICATIVE WATERMARKS VIA SPACE-TIME BLOCK CODING (ThuAmOR8)

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✳ Abstract :

In this paper, a new scheme for image watermarking in spatial domain based on space-time block coding is proposed. Specifically, a 4×4 real orthogonal design is employed for embedding a multiplicative watermark in the image. The image is divided into four blocks, which, after some simple operations, can be viewed as four different flat fading channels. At the receiver's end, a low cost maximum likelihood decoding is performed based only on linear processing. This scheme turns out to perform much better than repetitive watermarking, taking advantage of the well-known merits of space-time block coding, i.e., it achieves full diversity offering at the same time the maximum possible transmission rate for real constellations.