COMPARATIVE STUDY OF TWO INFORMED EMBEDDING STRATEGIES FOR AUDIO SPREAD−SPECTRUM DATA HIDING SYSTEMS (ThuAmPO2)

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Abstract :

In the particular application field of broadcasting, audio data hiding systems should ensure an inaudible, reliable and robust transmission for various channel perturbations. In this paper, we present two informed embedding strategies adapted to a closed−loop data hiding scheme. Both strategies aim at maximizing system robustness to additive channel perturbation and at limiting local perceptual distortion. In the first one, system robustness is based on the input signals of the correlator employed in reception process, whereas in the second one, system robustness is related to the transmission error probability. Experimental results on real audio signals are presented to compare the efficiency of the strategies. In terms of transmission reliability, the second strategy is comparable to the first one until 300 bps and is slightly more robust than the first one for higher transmission rate, but requires a higher computational cost than the first one.

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