JOINT OPTIMIZATION OF SOURCE−CHANNEL VIDEO CODING USING THE H.264 ENCODER AND FEC CODES (WedAmPO4)

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Abstract :

One of the most challenging drawbacks of video transmission over mobile lossy channels is the perceptual degradation of the reconstructed video sequence at the decoder. In fact, the high percentage of lost packets, as well as the intensive use of prediction to obtain a high compression ratio, affects the visual quality of the reconstructed sequence. As a matter of fact, it is necessary to introduce some redundant data in order to increase the robustness of the coded bitstream. A possible solution can be found filling a matrix structure with RTP packets and applying a FEC code on its rows. However, the matrix size and the chosen type of FEC code affect the performance of the coding system. The article discusses different optimization algorithms that adapt the channel coder configuration to maximize the objective (and perceptual) quality of the decoded sequence.

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