

Title: A denoising approach for iterative side information creation in distributed video coding

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Abstract: In distributed video coding, motion estimation is typically performed at the decoder to generate the side information, increasing the decoder complexity while providing low complexity encoding in comparison with predictive video coding. Motion estimation can be performed once to create the side information or several times to refine the side information quality along the decoding process. In this paper, motion estimation is performed at the decoder side to generate multiple side information hypotheses which are adaptively and dynamically combined, whenever additional decoded information is available. The proposed iterative side information creation algorithm is inspired in video denoising filters and requires some statistics of the virtual channel between each side information hypothesis and the original data. With the proposed denoising algorithm for side information creation, a RD performance gain up to 1.2 dB is obtained for the same bitrate.

Author Keywords: Video denoising; Distributed video coding; Side information; Minimum mean square error

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