FULL OCCLUSION MANAGEMENT FOR WAVELET−BASED VIDEO CODING (TueAmOR9)

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Abstract :

Motion−compensated lifting schemes have become a reference for the temporal filtering of video data. However, block−based motion estimation and compensation produce annoying blocking artifacts around the moving objects and near the borders of the images. In this paper, we propose a new lifted temporal filtering method, based on joint segmentation and motion estimation. This method consists in attributing locally the motion information to content−adapted regions instead of blocks. We first present our "Puzzle filtering" algorithm and we state the conditions for its invertibility. Then, we propose a method to extract regions of occlusion from the motion and segmentation information. The obtained regions are finally exploited within the proposed Puzzle filtering. First experimental results show that the blocking artifacts are completely removed and that the occlusions are successfully managed, which results in an important subband entropy decrease.

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