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A NO–REFERENCE BLOCKING ARTIFACT MEASURE FOR ADAPTIVE VIDEO PROCESSING (WedAmOR5)

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Abstract :

Objective image quality metrics offer the prospect of adapting video processing algorithms to the quality of the incoming signal. In the context of image enhancement, such as peaking, contrast enhancement or color mapping, the original image does not necessarily correspond to the subjective optimum. There is, therefore, a compelling need for reliable quality metrics that are based exclusively on the characteristics of the processed images (no–reference). In this paper, we illustrate the design and application of no–reference quality metrics for the case of blocking artifacts that commonly degrade the quality of block–based DCT encoded video. We outline a simple cost–effective method that allows the grid position and its visibility to be determined without the need for access to the coding parameters. This information, in turn, is used to effectively suppress blocking artifacts while preserving the sharpness of object edges.

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