

使用預測移動向量的快速多參考幀移動預估

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摘要

In H.264/AVC, it is found that quality improvement of new proposed specification such as intra prediction, multiple reference picture motion compensation, mode decision of variable-size block etc. leads to linear increment of encoding time. For multiple reference picture motion compensation, H.264/AVC provides a way to consult multiple previous frames instead of only one frame to improve the encoding quality. Though multiple reference strategy indeed improves the encoding quality, the encoding time is also increased. This paper proposes a fast motion estimation algorithm of multiple reference frames using predicted motion vector. Based on high correlation between consecutive frames, the encoding time can be highly reduced by predicted motion vector instead of actual motion estimation. The experimental result shows that the proposed fast algorithm can reduce 77% of encoding time with a negligible quality loss.

關鍵字 : Block Mode Decision, Motion Vector Prediction, Multiple Reference Frames, Rate Distortion Optimization.