Abstract

Improvements in de-interlacing algorithms are fundamental to explore image quality potential on modern TV screen technologies. This paper presents a true motion vector verification algorithm based on multi temporal block matching strategy, applied to video de-interlacing. During field scanning, a block of pixels is selected, then a block with the same reference coordinates is extracted but in the future field. A searching process runs in the previous field, looking for the most similar block; the best fit block and their coordinates are extracted from the previous field, and a new searching process is done but in the future field. If the searching process in the future field results back to the original block coordinates, the motion vector is validated; in other case, a correction over the motion vectors is done. Error calculation showed that the proposed algorithm presents image quality improvement, when compared to a classical motion compensation algorithm.

**Index Terms**

Computer Science  
Information Science

**Keywords**

Macroblocks  
true motion vectors