ESTIMATION OF GLOBAL MOTION USING A MODIFIED LORENTZIAN WEIGHT FUNCTION

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Abstract :  
Global motion estimation (GME) is an extensively used tool for many important video processing applications including mosaicing, image registration, video compression and segmentation. The presence of large foreground objects or other distortions often hinders the process of GME. The main challenges in this area are the combining of the motions of the background and foreground objects and the use of user–defined thresholds that are often sequence dependent. We propose an improved algorithm that solves the above-mentioned problems by an automatic block–based weight function based on the Lorentzian estimator. This algorithm automatically ignores the effect of large foreground objects without the requirement of any user–defined threshold. Experimental results on different test sequences show the superior performance of this technique over some recent methods.