

A Real-time Rectification using an Adaptive Differential Encoding for High-resolution Video

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Abstract— Previously, various rectification methods using compressed lookup table have been studied for real-time hardware stereo vision system. These loss compression methods may occur distortion that could corrupt disparity estimation process. Differentially encoded lookup table method which is lossless compression has no distortion with reasonable compression ratio. However, the method is limited to low-resolution and low warping movement. In this paper, we propose an adaptively differential encoding method. Our proposed algorithm has approximately 18~26% compression ratio which is comparable to the previous method and tolerates high-resolution video.

Keyword— adaptive differential encoding, high-resolution rectification, lookup-table, lossless compression, real-time processing.



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