



AN ADAPTIVE MOTION ESTIMATION SCHEME USING MAXIMUM MUTUAL INFORMATION CRITERIA (WedAmPO4)

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★ Abstract :

Motion estimation in video coding can be formulated as an optimization problem. Recently, a motion estimation scheme that uses Renyi's error entropy as the optimization criterion, was proposed [1]. Motivated by [1], in this paper, we propose a different criterion in motion estimation, i.e., the criterion of maximum mutual information. Based on this new criterion, we design a motion estimation algorithm. Our results show that our algorithm achieves significantly lower computational complexity compared to existing fast-search methods for motion estimation. A salient feature of our algorithm is that it is ideally suited for wireless video sensor networks where limited bandwidth, restricted computational capability, and limited battery power supply pose stringent constraints on the system.