



COMPRESSION OF VIDEOS CAPTURED VIA BAYER PATTERNED COLOR FILTER ARRAYS (WedAmPO4)

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★ Abstract :

In this paper we address the problem of the compression of a video sequence acquired by most inexpensive single sensor video cameras. For each pixel in a frame only one chrominance component is available and an interpolation is used to obtain the full color frame. Our goal is to compress the video directly from the Bayer color filter array (CFA) data. We propose a new method for the reduction of temporal redundancy in video sequences. Our approach consists of a pre- and post-processing phases in combination with a standard motion prediction scheme. Simulation results confirm the effectiveness of the proposed method. Compared to standard methods, the improvement in quality is achieved at low and high compression rates. The proposed method offers bandwidth reduction where videos are transmitted over a communications link at low bit-rates while maintaining the same quality produced in the conventional method.