



3D CUBE VIDEO CODING USING PHASE-BASED MOTION ESTIMATION AND EZW-IP CODER (TueAmOR8)

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★ Abstract :

In this paper, we propose a new three dimensional video coding scheme based on a Phase-based motion estimation, and new three dimensional EZW-IP coder. In the conventional video coding methods like MPEG/H.26x, hybrid coding scheme using motion estimation and DCT transform is adapted. But actually, these methods use only the temporal correlation of several frames. We pay attention here, and aimed to use much more temporal correlation to reduce the redundancy. The motions between successive frames are compensated effectively by phase-based motion compensation(MC) method. Moreover, it is not necessary to prepare the reference image for each input image frame by frame in this proposal method. 8 predicted-error frames are collected, and one CUBE is generated. And it is encoded by three-dimensional EZW-IP method. Our coding scheme provides some desirable features including exact bit-rate control, quality and resolution scalability, progressive transmission, and good compression performance.