NEW ADVANCED SPIHT FULLY SCALABLE VIDEO CODING USING WAVELETS

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Abstract

With the increasing demand of internet facilities and video compression techniques, emphasize are being made to make it more user friendly. The difference in bandwidth availability for the transmission of signal often spoils the data by losses, blurring of image, increment in transmission time etc. With the specified bit rate, receiver should be able to extract the good quality information or video. This is the work carried out in the direction of resolution scalability of video compression. There are various methods for compression. Discrete Cosine Transform (DCT) and Discrete Wavelet Transform (DWT) are two techniques applicable for the realization. The blocking artifacts coming in the cosine transforms makes them less useful. This gives the idea of using the wavelets for the analysis. The idea behind this is to obtain the good quality video information by heterogeneous receiver according to bit rate provided by them. Resolution scalability was firstly brought to still images with the DWT. The images were then reconstructed and compared with original image by means of PSNR. It was found that with increase in bit rate PSNR values increased, thus increasing the picture quality. Similar technique using modifications in 3D-SPIHT scheme was provided to standard video sequences. The results were then compared to pre-existing FGS methods. It was found that with increase in bit rate the PSNR increases ,when it approaches towards 40 dB ,the image quality is nearly equivalent to the original being transmitted.