

**Meeting:** 1006, Lubbock, Texas, SS 13A, Special Session on Statistical Image Processing and Analysis and Applications

1006-94-179      **Y Sriraja\*** (y.sriraja@ttu.edu), Dept. of Electrical and Computer Engineering, MS 43102  
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(sandip.krishnamurthy@ttu.edu), Lubbock, TX 79409, and **Tanja Karp**  
(tanja.karp@ttu.edu), Lubbock, TX 79409. *Inter-Channel Correlation Measurements for  
Estimation of Lost Wavelet Coefficients*. Preliminary report.

Most of the successful image compression schemes nowadays are based on the wavelet transform. The wavelet transform possesses de-correlating properties that enable a spatial-frequency representation of the image, with the different sub-bands containing different frequency components of the image. Images compressed using wavelet techniques are efficient and provide a very good quality even at very low bit-rates. They are however, very susceptible to errors and losses during transmission. Recovering quantized wavelet coefficients lost due to transmission errors is usually accomplished by means of interpolation. It has been shown that there exists a high correlation between corresponding wavelet coefficients across the different color planes, especially at the high frequency sub-bands. However, quantization of the wavelet coefficients due to compression alters the distribution in the sub-bands. We measure the inter-channel correlation between the color planes at each of the sub-bands before and after the coefficients are quantized. We also present an interpolation scheme where, lost wavelet coefficients from a high frequency sub-band of a single color plane are estimated based on corresponding coefficients at the other color planes. (Received February 14, 2005)