**IMAGE RESOLUTION ENHANCEMENT BY USING DISCRETE AND STATIONARY WAVELET DECOMPOSITION**

**ABSTRACT**

In this correspondence, the authors propose an image resolution enhancement technique based on interpolation of the high frequency subband images obtained by discrete wavelet transform (DWT) and the input image. The edges are enhanced by introducing an intermediate stage by using stationary wavelet transform (SWT). DWT is applied in order to decompose an input image into different subbands. Then the high frequency subbands as well as the input image are interpolated. The estimated high frequency subbands are being modified by using high frequency subband obtained through SWT. Then all these subbands are combined to generate a new high resolution image by using inverse DWT (IDWT). The quantitative and visual results are showing the superiority of the proposed technique over the conventional and state-of-art image resolution enhancement techniques.

Index Terms—discrete wavelet transforms, image super resolution, stationary wavelet transform.