**Multiresolution Image Fusion Approach For Image Enhancement**

**ABSTRACT**

Image fusion is performed by combining the data from multiple spectrums i.e. red, blue, Near Infra Red (NIR) and green, which results in enhanced image. Line features are clear in the blue and green bands while the red band reveals vein structures. The NIR band shows the palm vein structure as well as partial line information. Multispectral imaging has been employed to acquire more discriminating information. In wavelet transform the features gets affected for limited number of coefficients. The discontinuities across a simple curve affects all the wavelet coefficients on the curve. The advantage of the Curvelet transform is to handle curves using only a small number of coefficients. We can obtain the better fusion efficiency for the fusion of curved shapes using Curvelet transform. Fusion results were evaluated and compared according to different measures of performance. These performance measures show that curvelet based image fusion algorithm provides better fused images than wavelet.

***Keywords—*** Curvelet; Image Fusion; Multispectral; NIR; Spectrum; Wavelet