

ENHANCEMENT TECHNIQUE FOR PET IMAGES USING STATIONARY WAVELET TRANSFORM AND HIGH BOOST FILTERING

M G MINI¹ & ARYA DEVI P S²

¹Associate Professor (EC), College of Engineering, Cherthala, India

² Research Scholars, Model Engineering College, Kochi, India

ABSTRACT

Positron Emission Tomography (PET) images generally have a low resolution and are blurred in nature. This necessitates the need for image enhancement in PET. Stationary Wavelet Transform (SWT) helps in reducing noise thereby improving the quality of the images. The detail modulus of SWT decomposed image is deployed in high boost filtering for the proposed enhancement technique. This technique can be used as a pre-processing step before segmentation of the images. The proposed technique shows a PSNR around 39 dB which itself is an indicator to the enhancement achieved. The visual inspection also shows the improvement in quality of the images.

KEYWORDS: Contrast Improvement Index, Detail Modulus, Enhancement Measure, Image Contrast, Image Enhancement, Positron Emission Tomography, Stationary Wavelet Transform