**ABSTRACT**

In this paper a wavelet shrinkage algorithm based on fuzzy logic is proposed to improve the tea leaf image. The Tea Leaf images are normally changes to unclear images by the presence of noise, low or high dissimilarity both in the edge area and also in the image area. The Fuzzy shrink is used to enhance the image. In exacting, intra-scale dependency within wavelet coefficients is modeled using a fuzzy characteristic. This characteristic space distinguishes between significant coefficients, which depends on image discontinuity and noisy coefficients. This fuzzy characteristic is used for enhancing wavelet coefficients' information in the shrinkage step in this paper. Then a fuzzy membership function known as the spline-based curve is used to shrinks the wavelet coefficients based on the fuzzy characteristic. Here by using the interrelation between different channels as a fuzzy characteristic for improving the denoising performance compared to denoising each channel, separately. Examine the image denoising algorithm in the dual-tree discrete wavelet transform, which is the latest shiftable and customized version of discrete wavelet transform. Extensive comparisons with the high-tech image denoising algorithm indicate that the image denoising algorithm has a better performance in noise suppression and edge preservation as compared with the other methods. The spline based curve of a fuzzy membership function is more efficient one