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Performance Evaluation of Pixel Based Fusion of Multi - Focused images

K . Kannan

Abstract : Literature review revealed that the fast development of digital image processing leads to the growth of feature extraction of images which leads to the development of image fusion . Image fusion is defined as the process of combining two or more different images into a new single image retaining important features from each image with extended information content . There are two approaches to image fusion , namely direct fusion and multi resolution fusion . In direct fusion, the pixel values from the source images are directly summed up and taken average to form the pixel of the composite image at that location . Multi resolution fusion uses transform for representing the source image at multi scale . The most common widely used transform for image fusion at multi scale is Wavelet Transform since it minimizes structural distortions . Schemes that combine direct methods with wavelet based methods produce superior results than either standard method or simple wavelet based methods alone . This paper evaluates the performance of pixel based fusion of multi focused images using wavelet transform in terms of various performance measures .