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Performance of Hybrid Image Fusion: Implementation of Dual-Tree Complex Wavelet Transform Technique

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Abstract : Most of the applications in image processing require high spatial and high spectral resolution in a single image. For example satellite image system, the traffic monitoring system, and long range sensor fusion system all use image processing. However, most of the available equipment is not capable of providing this type of data. The sensor in the surveillance system can only cover the view of a small area for a particular focus, yet the demanding application of this system requires a view with a high coverage of the field. Image fusion provides the possibility of combining different sources of information. In this paper, we have decomposed the image using DTCWT and then fused using average and hybrid of (maxima and average) pixel level techniques and then compared quality of both the images using PSNR.

Keywords : image fusion, DWT, DT-CWT, PSNR, average image fusion, hybrid image fusion
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