X-Ray image restoration in the wavelet domain

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Abstract : Wavelet expansions and wavelet transforms have proven to be very efficient and effective in analyzing a very wide class of signals and phenomena. Wavelet expansion allows a more accurate local description and separation of signal characteristics. While Fourier coefficient represents a component that lasts for all time, a wavelet expansion coefficient represents a component that is itself local and is easier to interpret. In this work, we have used images obtained by the microfocus radioscopy system for the quality control of the metallization step of silicon solar cells. In many systems, the observed image can result from the convolution of the true image and the point spread function (PSF) contaminated by noise from various sources. The goal of this paper is to investigate the discrete wavelet transform (DWT) and its application to X-Ray image denoising. +EYWORDS Wavelet, discrete wavelet transform (DWT), X-ray, image denoising.

Keywords : wavelet, X-ray, discrete wavelet transform DWT, image denoising