

RETRIEVAL OF X-RAYS IMAGES WITH DIFFERENT GRADES OF OPACITIES USING MULTISCALE AM-FM METHODS

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We propose the use of Amplitude-Modulation Frequency-Modulation (AM-FM) features for describing the X-Ray images with pneumoconiosis. The AM-FM features are estimated using multiscale filterbanks with wavelength related with the standard sizes for grading the level of opacities in X-Rays. The AM-FM estimates show correlation between opacity profusion and certain instantaneous frequency (IF) and instantaneous amplitude (IA) in the sense of the counts of their histograms. The IF estimates computed in medium and high frequencies are able to detect the first symptoms and appearance of opacities in the chest. Values in the range of low and medium frequencies show to describe the different grades when the disease is in advanced stage.