

The selection of operators for image enhancement and textural analysis on mammogram for identification of several diseases

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Abstrak

In detection of breast cancer using mammography, accurate diagnosis often depends on the visibility of small low contrast objects within the breast image. This is even more critical in the case of small tumor detection at early stage. Radiographic examination including mammography, have reduced the contrast and visibility of small objects. Due to the high X-ray penetration of the objects scattered radiation, and the limited capability of the film to develop maximum contrast over an extended range of exposure values. Density slicing method based on the interval setting of image histogram has been applied for the image enhancement and "quick classification". But for mammography it is also required to detect and identify the disease region clearly in order to decide a proper treatment. By using clustering method it was obtained some classes as training areas for the supervised classification and by selection of the operators of image enhancement the best boundaries of tissues had been detected. Finally by using the NGLDM (Neighboring Grey Level Dependence Matrix) method, the textural features of several diseases has also been extracted. From the experimental results that were obtained in this study, a simpler technique for accurate diagnostic has been yielded without increasing the dose of X-ray on patient or without any other psychological effects.