

## **Breast Tumor Detection in Medical Image Processing using Wavelet Enhancement**

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**Abstract.** X-ray image processing is a computerized system which enhances the amount of detail visible on a digitalized x-ray image. The effect of this technique in the diagnoses of breast cancer, where the detection of early malignant tumors is essential for effective treatment, is reviewed in this paper. Mammograms are initially enhanced by either increasing the contrast of suspicious area or by removing background noise. Various mathematical methods are then applied to detect the individual tumors depending on whether the tumor appears as a microcalcification cluster or a mass, in mammography the interesting characteristics of an image are malignant masses, microcalcifications and skin thickening of which the last two are said to be indirect signs of malignancy. The mammograms, as normally viewed, display a small percentage of the information they detect and that is due to the minor difference in x-ray attenuation between normal glandular tissues and malignant disease. This makes the detection of small malignancies difficult. The digital medical image processing uses denoising and image enhancement techniques so as to reveal any tumors that may not be obvious and help the oncologist decide. In this paper we employ wavelet method of image enhancement and the conclusion would be satisfied.

**Keywords:** wavelet , microcalcification, glandular tissue, mammogram

### **I Introduction**

Among women, Breast cancer accounts for one third of all cancers detected and 18% of all cancer deaths. Untill recently breast cancer was the leading cause of death among women but since 1985 it has ranked second lung cancer. Prevention of this disease is not possible since its cause is not fully understood . However, current methods of Treatment are very effective against breast cancer in its early phase[1] .Therefore, the most promising way to achieve a change in the current breast cancer situation is to remove the