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(57) Abstract :
The Appearance of suspicious hyperthermic regions (SHRs) in breast thermograms is the single most marker of breast abnormality. Hence, accurate segmentation and analysis of SHRs are very crucial for grading the degree of severity in breast thermograms. A novel breast abnormality grading approach namely Morphology Model of Suspicious Hyperthermic Regions (MMSHRs) has been proposed here. The proposed MMSHRs method first segments the SHRs and then, the morphology of the SHRs has been analyzed to grade the thermograms according to their degree of severity. The experimental results show that the proposed segmentation method can extract the SHRs more accurately with higher average accuracy rate compared to the other state-of-the-art methods. The segmentation of SHRs is followed by the extraction of morphological features of SHRs, which categorizes the abnormal thermograms into mild abnormal and severely abnormal with classification accuracy of 91% based on the degree of severity present in the thermograms.

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