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ABSTRACT

Experimental Photoelasticity Techniques for the Interpretation of 3D Printed Models in Breast Cancer Diagnosis

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Early detection of breast cancer is crucial for improving survival rates. This study presents the results of using experimental photoelasticity techniques to analyze 3D printed models for breast cancer diagnosis. Computed Tomography (CT) images were utilized to create three-dimensional breast tissue models, which were then subjected to experimental photoelasticity analysis. The findings suggest that this technique correlates with patterns typically observed as alterations in breast tissue structure linked to tumor presence. By improving the accuracy and objectivity of breast cancer diagnosis, this method could greatly enhance medical care and support the diagnosis in patients at the initial stage of the process.

Keywords: Breast, Cancer, Photoelasticity, Computed Tomography, 3D printed models