Abstracts

Confocal microwave imaging for breast tumor detection: application to a hemispherical breast model

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Confocal microwave imaging (CMI) has been proposed for breast imaging, and detects tumors by selectively focussing backscatter from the breast. Previous studies have employed simple cylindrical or planar breast models, or 2D breast models created from breast MRI scans. In this paper, we use a hemispherical breast model to examine tumor detection and localization in 3D. This model has more realistic features than the simple cylinder. Results indicate that extension of cylindrical CMI to 3D scans of more complex models appears feasible. Future work includes developing methods to accomplish a full breast scan with cylindrical CMI.

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