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Visualization of Lesion Bonding in Axial-Shear Strain Elastograms of Benign and Malignant Breast Lesions

Axial-shear strain elastogram (color) superimposed on the corresponding sonogram of (a) benign and (b) malignant breast lesion. Pixels in axial-shear strain elastograms with absolute magnitude greater than 50% of the applied axial strain (0.0025) and having corresponding correlation coefficient >0.75 were superimposed on the sonogram. Observe that the extent of axial-shear strain region and its proximity to the sonographically visible lesion is different for the two lesions, probably due to the differences in the way they are bonded to their surrounding tissue.

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Image courtesy of Arun Thitaikumar and Jonathan Ophir. A. Thitaikumar and J. Ophir are with the University of Texas Medical School, Department of Diagnostic and Interventional Imaging, Ultrasonics Laboratory, Houston, TX. A. Thitaikumar is also with the University of Houston, Electrical and Computer Engineering Department, Houston, TX.