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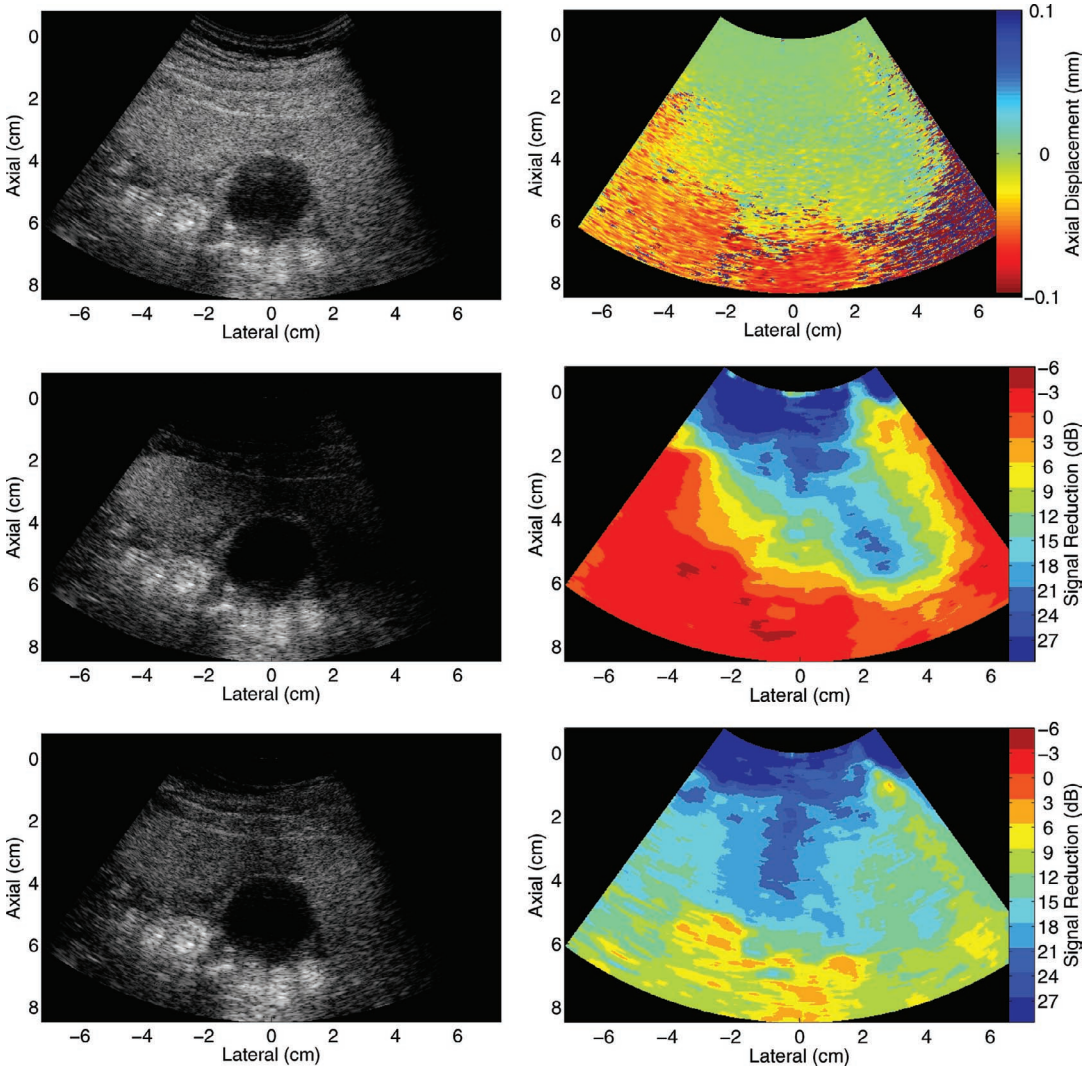

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Clutter Reduction in an *In Vivo* Liver Image

The front cover displays results of a motion-based clutter reduction method applied to an *in vivo* gall bladder and surrounding liver tissue. The method requires axial displacement of the abdominal wall during real-time image acquisitions. Abdominal muscles were slowly translated during successive-frame imaging, while the hand-held transducer, resting and lightly supported on the abdominal skin, followed the motion. A B-mode image (top left) and map of inter-frame axial displacements relative to the transducer surface (top right) indicate that clutter arising from acoustic interaction in the abdominal wall experiences similar displacements to the abdominal wall. Similar results were achieved in simulated, phantom, and *in vivo* bladder images. Clutter moving in synchrony with the abdominal wall may be reduced by applying motion filters to the acquired images. Examples of clutter reduction via this motion-based method is shown in the 1,-1 Finite Impulse Response-filtered image (center left) and corresponding map of magnitude reductions (center right), as well as in the Blind Source Separation-filtered image (bottom left) and corresponding map of magnitude reductions (bottom right). For more details, please refer to the accompanying article on page 2437 of this issue.

Images courtesy of Muyinatu A. Lediju, Michael J. Pihl, Stephen J. Hsu, Jeremy J. Dahl, Caterina M. Gallippi, and Gregg E. Trahey. M. A. Lediju, S. J. Hsu, J. J. Dahl, and G. E. Trahey are with the Department of Biomedical Engineering, Duke University, Durham, NC. M. J. Pihl is currently with the Department of Biomedical Engineering, Technical University of Denmark and University of Copenhagen. He spent seven months researching ultrasonic clutter at Duke University, Durham, NC. C. M. Gallippi is with the Department of Biomedical Engineering, University of North Carolina at Chapel Hill, Chapel Hill, NC. G. E. Trahey is also with the Department of Radiology, Duke University Medical Center, Durham, NC.