

Abstract Submitted  
for the APR06 Meeting of  
The American Physical Society

**Denoising of Nondestructive Examination Data Using Wavelet, Maximum Entropy, and Limited Differential Methods**<sup>1</sup> NICK ECKENSTEIN<sup>2</sup>, JORDAN JOHNSTON<sup>3</sup>, SHAYNE JOHNSTON, Oklahoma School of Science and Mathematics, AARON DIAZ, Pacific Northwest National Laboratory — A simple and original denoising method, the “limited differential method,” has been developed. The algorithm is based on iterated local-pixel-averaging, and is very effective for large-amplitude speckled noise on a smoother background signal. For noise of this type, tests on both noisy two-dimensional images and noisy ultrasonic-scattering data volumes clearly demonstrate the superiority of the method relative to three more complicated standard methods: Fourier processing, wavelet denoising, and maximum-entropy reconstruction.

<sup>1</sup>Work supported by Research Corporation

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Date submitted: 11 Jan 2006

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