Application of Laser Ultrasonics to Develop Dispersion Curves for Elastic Plates

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ABSTRACT

This technical note reports on a study that combines laser ultrasonic techniques with the two-dimensional Fourier transform (2D-FFT) to develop dispersion curves for Lamb waves propagating in an aluminum plate. This application demonstrates that by combing the high fidelity, broad bandwidth, point source/receiver and non-contact nature of laser ultrasonics with the robustness and accuracy of the 2D-FFT, it is possible to develop dispersion curves that contain more modes (through a broader bandwidth) than previously possible.