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Propagation Analysis of Flexural Waves by Wavelet Transform

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The purpose of this study is to investigate the possibility of structural health monitoring by using the flexural waves propagation. We investigate the velocity of the propagation of flexural waves. In this paper, the rectangular aluminum thin plate is used in the experiment, which is basic element of structures. The specimen is excited at one point by the exciter, and, the displacement of vibration is measured by using two non-contact displacement sensors. The velocities of the flexural waves are calculated by wavelet transform analysis. As a result, the velocities of the flexural waves could be measured exactly by wavelet transform. Therefore, it is found that the structural health monitoring by the flexural waves is possible.

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