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# Impact Echo Signal Interpretation Using Ensemble Empirical Mode Decomposition

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One of the biggest obstacles for impact-echo application is data interpretation. Fourier transform is limited by its cumulative feature; Short Time Fourier Transform (STFT) and wavelet transform give a time-frequency analysis but at a sacrifice of resolution. Empirical mode decomposition (EMD) is an adaptive time-frequency analysis method that has been applied to interpret impact-echo data recently, but it has the mode mixing problem when surface wave intermits the signal. In this paper, an improved empirical mode decomposition (EMD) method, ensemble empirical mode decomposition (EEMD), which can effectively solve the previous problem by simply adding white noise, is applied to analyze the impact-echo data. EMD, EEMD as well as wavelet transform are applied to the numerical data of concrete deck de-fected by a delamination and results have shown EEMD is more promising at certain points.

**Ключевые слова:**

**Содержание.**

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