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I. Bartoli, R. Phillips, S. Coccia, F. Lanza Di Scalea, S. Salamone, A. Marzani, M. Faten, G. Carr

Ultrasonic Guided Waves in Continuously Welded Rails for Buckling Prediction

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This paper presents numerical results on the propagation of ultrasonic guided waves in Continuously Welded Rails subjected to static axial stresses. The results show that ultrasonic guided waves are sensitive to the variation of stress and could be potentially used to estimate the stress level or the neutral temperature in rails. Experimental results are also reported, highlighting guided wave features sensitive to stress level in a steel I-beam subjected to increasing compressive axial force. This work, funded by the Federal Railroad Administration, aims to develop an ultrasonic stress measurement system for rails.

Ключевые слова:

Содержание.

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