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Notch Case Monitoring By Means of Ultrasonic Guided Waves in Steel Structures

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In case of steel structures dynamic loads often lead to crack appearance at welded joints which strongly influence the durability of structure. In this paper a method that monitors the occurrence of cracks in a weld due to cyclic loading is presented. The potential application of a pitch-catch PZT ultrasonic guided wave sensor system is investigated during an ongoing fatigue test. The deviation of the recorded wave packs after a certain number of load cycles documents the appearance of faults in a defined notch case. The fatigue test is executed on a HEA-160 cantilever I-beam excited in its first natural frequency.

Ключевые слова:

Содержание.

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