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Local Damage Detection Process for Aging Steel Bridge Joints

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Continuous health monitoring of aging civil infrastructure systems such as steel truss bridge is needed for proper maintenance and safety viewpoint. Use of piezoelectric sensors such as PZT (Lead Zirconate Titanate) is rapidly increasing in health monitoring systems of large structures. In active monitoring systems the structure under inspection is excited by PZT actuators. Actuator generated elastic waves are received by surface mounted or internal sensors and analyzed for damage detection. The objective of this study is to detect local damages in a steel bridge joints. So, a simple commonly occurring channel section with rivet holes has been investigated for the presence of cracks around the rivet holes by employing guided lamb waves. This understanding of PZT induced wave propagation in complex structures such as channel section containing cracked rivet holes is crucial for developing efficient damage detection algorithms in a steel bridge structure.

Ключевые слова:

Содержание.

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