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NUMERICAL SIMULATION OF WAVE PROPAGATION IN WELD JOINTS INCLUDING A FLAW

Morad Grimes, Sofiane Haddad, Toufik Benkedidah

Abstract : In this study, the process of wave propagation in weld joints including a flaw was simulated using elastic finite-difference time-domain (FDTD) method and a digitized cross-section photograph of actual test object as input data. In order to distinguish the different elements constituting the experiment (transducer, wedge of a probe, test object), different colors are assigned to these different materials. Each color contains information on material parameters, such as the velocity of longitudinal and transversal waves, and the material density

Keywords : simulation, FDTD method, Ultrasonic, weld joints