

1.3.39. INVERSE PROBLEM FOR MATERIAL ANALYSIS BY ULTRASOUND

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The inverse problem in materials analysis puts some challenges because the composition variables are both discrete and continuous and because the engineering properties are highly nonlinear functions.

In this paper we address the non linear features of back scatted ultrasonic waves from steel plate, for understanding its micro structural behaviour. The experiments show a challenging interface between material properties, calculations and ultrasonic wave propagation modelling.