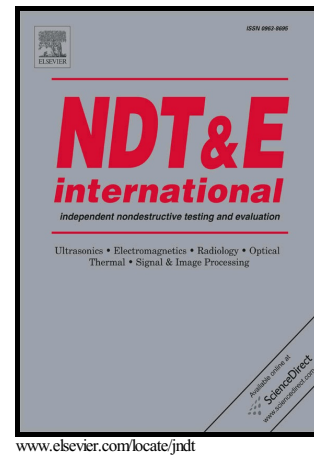


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Lift-off Effect Reduction Based on the Dynamic Trajectories of the Received-Signal
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Abstract

Reduction of interferences such as the lift-off effect in pulsed eddy current (PEC) testing has been difficult. A new approach based on the dynamic trajectories of the fast Fourier transform (FFT) of the received signals is presented in this paper for reducing the lift-off effect in PEC. The PEC probe scans the surface of the test sample and a set of received signals for a corresponding set of scanning points is stored. FFT is performed on all these stored signals, and the real and imaginary parts for a particular FFT harmonic of all the stored scanning points are plotted in a complex plane to form a dynamic trajectory. The defect trajectory can be recognized from the lift-off trajectory by observing the angle between them, as in conventional eddy current testing. By moving the defect trajectory in the complex plane for each

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