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ABSTRACT
PRESENTATION
PAPER

Lukas Gahleitner is a research associate at the Research Group of Thermography and NDT at the University of Applied Sciences Upper Austria in Wels, Austria. He is also a PhD Candidate at the Johannes Kepler University in Linz, Austria.

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ESTIMATION OF THE THERMAL WAVE REFLECTION COEFFICIENT OF SUBSURFACE INTERFACES USING THE VIRTUAL WAVE CONCEPT

This research study demonstrates the capability of the virtual wave concept as a feature extraction method for estimating the thermal mismatch of subsurface interfaces within layered materials. The mathematical relationship between the reflection coefficient of the thermal wave and the virtual wave can be demonstrated. For experimental validation, pulsed thermography in the pulse-echo configuration for different metallic samples is performed. To sum up, this method yields a very good estimation of the interfacial parameters for the analyzed samples.