

Inspection of Electrofusion with TFM

MANTIS/GEKKO PAUT Flaw Detectors

MANTIS / GEKKO

- TFM-fueled phased array ultrasonic flaw detectors for probes with up to 64 elements
- Intuitive interface and step-by-step app design
- MANTIS and GEKKO provide all UT inspection techniques in one instrument
- In this TFM application the instrument setup is done by entry of the materials sound velocity (generally known) and the pipe wall thickness

MANTIS (front) and GEKKO shown proportional in size to one another

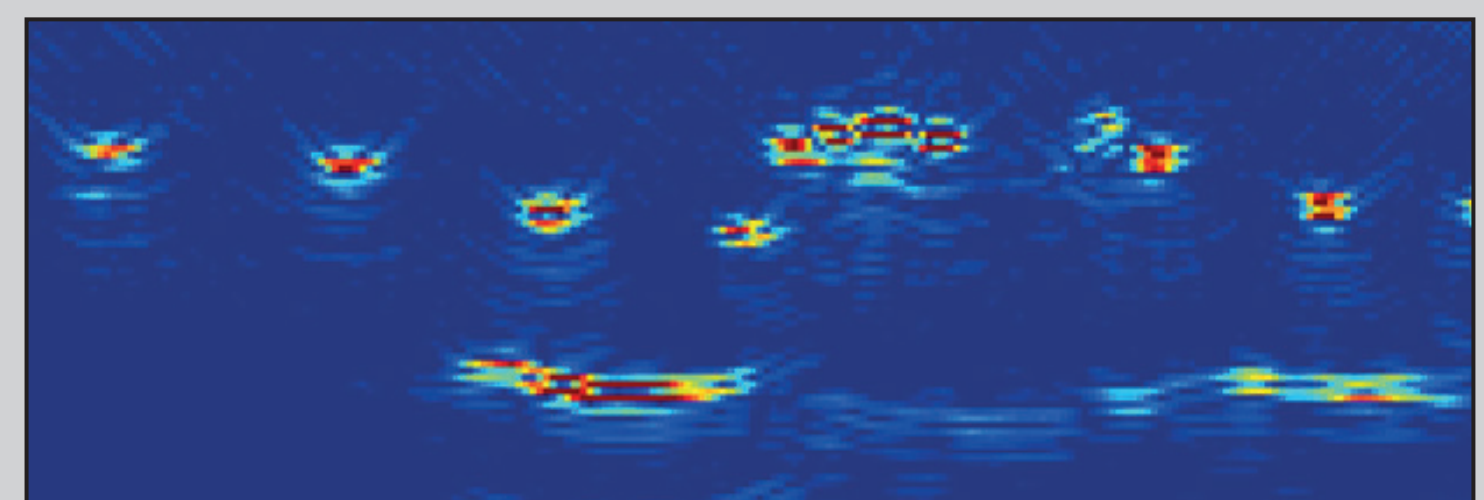


Application

- PE pipes, e.g. for gas pipes, are connected and welded by electrofusion fittings
- Insertion depth and weld quality are relevant for the pipes leak tightness
- Phased array ultrasonic inspection with TFM
- Checking the welding quality by visualizing the heating wires and displaying unwelded areas by means of the back wall
- Checking the insertion depth of the pipes in the electrofusion fitting
- Determination of indication positions by means of manual 1-axis scanners

TFM

- TFM is short for Total Focusing Method, a state-of-the-art method to evaluate ultrasonic signals
- TFM generates highly resolved ultrasonic cross-sectional images of the inspected part
- In this application, TFM provides imaging results that can also be understood and interpreted by non-NDT-experts



TFM image showing a well-welded area on the left and welding defects on the right with point-shaped indications of the heating wires and line-shaped indications of the inner wall of the pipe

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