

WHAT IS THE LINK BETWEEN PHASED ARRAY IMAGING AND TOMOGRAPHY?

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ABSTRACT

Phased array imaging has received significant interest in the NDT ultrasonic community, because of its ability to quickly produce subsurface images of potential damage within a component, taking measurements from a single surface. By contrast, tomography produces a map of local properties, such as plate thickness, wave velocity or material density, utilising waves transmitted through the object.

Tomography has value in its ability to quantify properties in a way that is traditionally not possible through standard phased array imaging. However, the mechanisms by which images are produced in both areas overlap, and the intention of this presentation is to compare the methods and highlight the physical consequences of this, both for tomography and phased array imaging.