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Utilization of State-of-The-Art Phased Array Inspection Technology for the Evaluation of Friction Stir Welds

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Abstract

The use of friction stir welding techniques (FSW) for joining thin aluminum plates in aerospace applications has resulted in a need for a high-resolution non-destructive testing technology to find and characterize the small, tight cracks which may be produced by using FSW. Phased array ultrasonics has been applied to FSW with success, and is being planned for shop floor use. This paper will discuss phased array ultrasonics and its application to friction stir welds in thin aluminum plates.