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A new technique to reconstruct the defect shape from Lock-in thermography phase images

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Abstract

We present a new method for reconstructing the shape of defects in three dimensions from optical lock-in thermography phase images with image processing algorithms. The point-spread function which describes the blurring effect of thermal images derived from optical lock-in thermography is computed. It is shown, that the depth and the shape of a planar defect can be retrieved.

Keywords: optical lock-in thermography, thermal tomography, quantitative evaluation, PSF, inverse problems, composite aircraft material.

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