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ABSTRACT



PRESENTATION



PAPER



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RESOLUTION OF MULTIPLE DELAMINATIONS USING LOCK-IN INFRARED THERMOGRAPHY

In this work we analyse the ability of lock-in infrared thermography to resolve several parallel and semi-infinite delaminations. First, we calculate analytically and numerically the surface temperature of a sample containing several delaminations. Then, we study the ability of lock-in infrared thermography to resolve two close delaminations. In particular, we focus on two main configurations: two non-over-

shadowed delaminations and two superimposed delaminations. Next, we develop a dedicated parametric estimation procedure able to retrieve the geometry of the studied defects. Finally, we test this procedure with synthetic temperature amplitude and phase data to retrieve the geometrical parameters of both delaminations.