

## **Optimising the parameters in Pulsed Thermography using Numerical Simulations**

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With the rapid development in the field of imaging system, infrared thermography has emerged as a quantitative non destructive technique. The improvement in the performance of the infrared detector with respect to the spatial and the temperature resolution has led to the improved defect detection. With these improved defect detection capabilities, and the supplementing the analysis with mathematical model has led to the determination of defect characteristics more accurately.

The FEM analysis is carried out on the model of the tested sample and the problem of transient heat diffusion is solved for experimental conditions. The surface temperature decay profiles were extracted from the numerical simulation and compared with the experimental results. The results are encouraging and possible ways for improving the results and further research directions are proposed.

Keywords: Modeling and simulation, COMSOL Multiphysics, Pulsed Thermography