

**EDDY CURRENT THERMOGRAPHY INVESTIGATION FOR
DEFECT DETECTION AND CHARACTERIZATION**

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ABSTRACT

EDDY CURRENT THERMOGRAPHY INVESTIGATION FOR DEFECT DETECTION AND CHARACTERIZATION

The use of non-destructive testing (NDT) techniques have been continuously applied for inspection and assessment of defects in both industrial and research field. In recent years, the research and development in this field continuously improving and developing existing methods as well as in introducing new NDT techniques. Eddy current thermography is an emerging technology in advanced NDT, which provides alternative solution to the demand by the current industry. It combines eddy current and thermographic techniques to provide a fast and efficient method for defect detection and characterization over a relatively large area. In this study, an investigation into the application of eddy current (EC) thermography on a TRUEFLAW sample for the detection and characterization of surface breaking defect is conducted. The review on a real defect provides the way to evaluate the eddy current thermography for defect detection, where the pattern of heating is dependent on the eddy current distribution resulting from its interaction with respect to the defect position on a tested sample. The investigation proves that the eddy current thermography technique can be used in providing both qualitative and quantitative information for defect characterization through analysis of the surface heating pattern and the transient temperature change.