

## **Predicting fatigue and damaged modes due to defects of bio-composite materials**

### **ABSTRACT**

In this study, fatigue failures of bio-composite materials were predicted due to manufacturing defects. Kenaf bast fibres were used to fabricate a bio-composite material with epoxy as a binding material. The bio-composites were manufactured by using a hand lay-up process. The defects in the Kenaf/epoxy bio-composite were determined by a non-destructive technique using Infrared thermal imager. Besides, the thermography analyses were verified via optical microscope and scanning electron microscope (SEM) investigations. Determinations of fatigue, as well as damage had been predicted, and it was found that the damage could be fixed with the predicted results.

**Keyword:** Fatigue; Defects; Bio-composites materials; Non-destructive technique