

In this paper, a free vibration-base damage detection technique has been used to identify fibre breakage within the composite beam. In general, most of these type of techniques used the reduction in stiffness of any structure that affects the dynamic response of the structure to detect damage. To simulate fibre breakage, an analytical method is used to calculate the stiffness of the damaged area. This technique used a certain way to localise fibre breakage and identify the size of the damaged area. Furthermore, this way shows that the difference of dynamic responses between the damaged part and the intact part within the composite beam increase with increasing the distance of the damaged part to the fixed end. Also, an improvement of irregularity index has been conducted to enhance the damage detection of composite structures. This technique will be applied to a simulated data to evaluate the efficiency of this technique.