STUDY AND MEASUREMENT OF FRACTURE PARAMETERS FOR DELAMINATION INITIATION IN COMPOSITES

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ABSTRACT

Delamination in layered composite material belongs to the problem of interface cracking. Due to oscillatory characteristics near the tip of interface crack, the fracture parameters $K_1$, $K_2$, $G_1$, $G_2$, $G_{12}$ obtained by the classical definition may not exist. In this paper, we choose a proper definition provided in the literature and measure this modified fracture parameter by combining the test methods of DCT (Double Cantilever Beam), ENF (End Notch Flexure) and finite element analysis. To know the dependency on the ply orientation, the lay up of the specimen is designed as $[0/90/0/90]^2$.