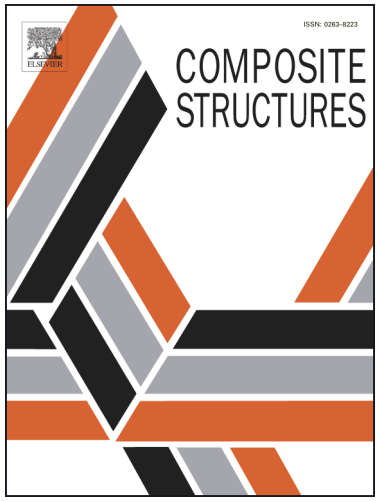

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Experimental study of the impactor mass effect on the low velocity impact of carbon/epoxy woven laminates

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Abstract

In this work, the analysis of the impactor mass effect on the behaviour of carbon/epoxy woven laminates under low velocity impact is carried out. To this end experimental test were performed by means of a drop weigh tower in a range of energies varying from 10 to 110 J, and using three different impactor masses. Two different laminate thicknesses were considered in order to take into account its possible influence. An analysis of the impact tests is performed using the Composite Structure Impact Performance Assessment Program, in order to observe the influence of impactor mass. Once impacted, the laminates were inspected by means of a C-Scan (to quantify the delamination extension) and a phased array ultrasonic system (to analyse the failure through the thickness); this non-destructive analysis will determine the influence of the impactor mass on the laminate failure.

Keywords: A. Woven carbon/epoxy; B. Drop weight tower; C. Low velocity; D. Impactor mass

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