

1.10.41. SIMULATION OF ULTRASONIC NDT IN COMPOSITE STIFFENER RADIUS

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Inspection of composite structures requires careful preparation of inspection procedures. To do this faster and at lower cost, for complex configurations, the help of simulations is of great interest for understanding the ultrasonic behaviour and optimize the NDT configuration. In this paper we present simulations of ultrasonic testing of a composite radius configuration performed with a Finite Differences in Time Domain code (ACEL-NDT software). The part is numerically described at the meso-scale (ply scale), including description of resin interfaces between pre-preg layers. The continuously varying anisotropy of this shaped part is accounted for by rotating the stiffness tensor at each degree of variation. Comparisons with experimental results are presented as a validation of these simulations.