

2016

Study of the Effect of the Geometry Shape of defect on the Reliability of NDT Device

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Abstract : This work concerns the study the effect of random properties and defect geometry on the reliability analysis of the non-destructive testing inspection device. Two kinds of defects geometries are considered as rectangle and triangle shapes respectively. A stochastic finite element method (SFEM) was used to solve the 2D electromagnetic equation in cylindrical structure. The results obtained for both rectangle and triangle random shapes are given.

Keywords : random geometry, random properties, nondestructive testing, reliability analysis, stochastic finite elements