Reliability-Simulation of Composite Tubular Structure under Pressure by Finite Elements Methods

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Abstract : The exponential growth of reinforced fibers composite materials use has prompted researchers to step up their work on the prediction of their reliability. Owing to differences between the properties of the materials used for the composite, the manufacturing processes, the load combinations and types of environment, the prediction of the reliability of composite materials has become a primary task. Through failure criteria, TSAI-WU and the maximum stress, the reliability of multilayer tubular structures under pressure is the subject of this paper, where the failure probability of is estimated by the method of Monte Carlo.