The Application of Heuristic Algorithm to the Ply Stacking Sequence of Constant Thickness Composite Laminate Plate

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ABSTRACT

Due to its high reliability, composite material is commonly used in industry. Moreover, the stacking sequence is very crucial to the strength of the composite material. However, the arrangement of this sequence is very time-consuming. Actually, since stacking sequence are usually NP complete, Heuristic Method were borrowed to deal with the stacking sequence problems in this study. The edging stress of a constant thickness composite plate, which is obtained by the analytical method, was used as the objective function in the Heuristic Method. Three examples of constant thickness and symmetrical composite laminate plates were used to examine the performance of the proposed algorithms. The results of computational tests presented are very promising.

Keywords : Composite Material ; Stacking Sequence ; Heuristic Method

Table of Contents

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