MODEL OF STRAIN-STRESS STATE OF CURVILINEAR LAMINATED BEAM UNDER BENDING

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Abstract

The study proposes an analytical model for determining the strain-stress state of the wing mechanization element, which is a curvilinear composite beam. The model takes into account the variation of the circumferential modulus of elasticity along the thickness of the beam. To verify the correctness of the presented model by the finite element method, we performed numerical simulation of the strain-stress state of the bar and confirmed the correctness of the proposed analytical model. Finally we give recommendations for increasing the bearing capacity of the structure.

Keywords

Composite, carbon fiber, curvilinear laminated beam bending, strain-stress state

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