

GEOMETRICALLY NONLINEAR PROBLEM OF THE BENDING OF SANDWICH PLATES

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Summary. The problems of determining the stress-strain state of a sandwich plate with a transversally soft core in a geometrically nonlinear one-dimensional formulation are studied. The generalized statement of the problem is formulated in the form of the operator equation in the Sobolev space. The existence theorem of the problem is proved. To solving the problem two-layer iterative algorithm is proposed and the convergence of the algorithm is investigated. The results of numerical experiments for the model problem are presented.

Keywords. Mathematical simulation, sandwich plate, transversally soft core, geometrically nonlinearity, existence theorem, convergence theorem, iterative algorithm, numerical experiment.