

DESIGNING VARIABLE-THICKNESS REVOLUTION SHELLS FOR THE CASE OF AXIALLY SYMMETRIC LOADING USING THE QUADRATURE METHOD

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Samara State Aerospace University

The paper deals with the application of the numerical quadrature method to integrating differential equations of variable-thickness revolution shells for the case of axially symmetric loading. The original system of differential equations is transformed into an integral one. The trapezoid quadrature formula is applied to all the integrals with variable upper limits. This makes it possible to set up a system of linear algebraic equations in order to determine the values of all the functions desired with the prescribed step t . As a result we manage to obtain numerical values of special solutions of the system of differential equations and its general solution containing arbitrary constants.