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An Analytical Method for Bending Rectangular Plates with All Edges Clamped Supported

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Abstract : The decoupling method and the modified Naiver method are combined for accurate bending analysis of rectangular thick plates with all edges clamped supported. The basic governing equations for Mindlin plates are first decoupled into independent partial differential equations which can be solved separately. Using modified Navier method, the analytic solution of rectangular thick plate with all edges clamped supported is then derived. The solution method used in this paper leave out the complicated derivation for calculating coefficients and obtain the solution to problems directly. Numerical comparisons show the correctness and accuracy of the results at last.

Keywords : Mindlin plates, decoupling method, modified Navier method, bending rectangular plates
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